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As the Arris and Gale lectures mark the separation of the Surgeons of London from the Barbers, the name of Thomas Vicary is very intimately associated with their union. In Holbein's well-known picture Vicary is represented as receiving the Act of Union of the two bodies from the hands of King Henry VIII. The Company of Barbers had, however, existed in London as a trade guild, and many of its members had engaged in the practice of surgery for more than two and a half centuries before the date of the union. In the Letters Patent of Edward IV., granted to the Barbers of London in the year 1462, it is declared that "The freemen of the Mystery of Barbers of London, exercising the Mystery or Art of Surgery, as well respecting wounds, bruises, hurts and other infirmities of our liegemen, ... have for a long time undergone and supported, and do daily undergo and support, great and manifold applications and labours," &c. And in the year 1388, in the return of the Company to the writ of Richard II., the Master recites that they "have found a document amongst the articles of their records made of a time to which the memory runneth not."

It is not my intention to give a history either of the Barbers' Company or of its relations to the practice of surgery. This was superbly done by the late Mr. Sidney Young in his "Annals of the Barber-Surgeons of London," published 29 years ago. And the main facts relating to the jurisdiction of the Barbers' Company over the Surgeons of London, and of the constitutional relations of the Company of Barbers and Surgeons with this College, are set forth in the Historical Summary which is published in the Calendar of the College.

Before proceeding with the subject of this lecture I desire to thank the Council of the College for the honour which they have done me in inviting me to deliver the first Thomas Vicary lecture. As a Past President of the College, and as a Past Master of the Barbers' Company, I greatly appreciate the compliment. As this is the first of what I hope may be a long series of lectures, I propose to take a glance at a few salient points of surgical doctrine and practice, rather than some particular subject, of which there is no lack of choice for many years to come. I have therefore taken as the title of my lecture, "The Surgical Tradition."

PREHISTORIC EVIDENCE.

Even from prehistoric times we possess evidences of the practice of operative surgery. The prehistoric evidence is, of course, osseous and

furnished by the remains of skulls and bones showing marks of surgical treatment, because the soft parts have perished. In early historic times we may note that the Code of Hammurabi, dating from about 2200 years B.C., contains several records of surgical practice, and prescribes the payment to be made for surgical operations and the treatment of certain injuries and diseases, and the penalties in case of failure. Everyone is familiar with Homer's praise of the surgeons in the Trojan war, more particularly Podalirius and Machaon, whose effigies are represented as the supporters in the heraldic Arms of the College. In several places Homer describes injuries received in battle, and his descriptions of the effects of these injuries manifest a notable acquaintance with anatomy and physiology, and with the effects of loss of blood and of shock. Herodotus records many interesting events of medical and surgical interest, especially in Persia and in ancient Egypt. In ancient Egypt medicine and surgery early attained a high standard of proficiency, but they soon split up into a large number of specialities. Eventually extreme specialism put a stop to progress. Every practitioner was compelled to follow the rules for the treatment of diseases prescribed in the Sacred Books, and departure from these rules was a capital offence if the patient died. Originality and independence of thought and freedom of action were proscribed. Innovation and the trial of new methods were forbidden.

HIPPOCRATES' KNOWLEDGE OF SURGERY.

It is only when we come to the writings of Hippocrates that we have a positive and rational account of surgery and surgical operations. Although Hippocrates is usually thought of more in connexion with medicine than with surgery, there is ample evidence of his knowledge and skill as a practical surgeon. Indeed, it may be argued that his surgery is of more permanent value than his medicine. With the exception of its method, its logic, and its ethics, Hippocratic medicine is antiquated, and its doctrines, being necessarily speculative and theoretical, are mostly obsolete; but Hippocratic surgery, having a more positive basis, retains its actuality. The directions which he gives concerning the arrangements of an operating room; the situation of the patient; the position of the assistants; the disposition of the lighting; the care to be taken of the surgeon's hands; the need of ambidexterity, all indicate a careful and experienced practitioner. The Hippocratic treatises on wounds and ulcers and on the injuries of the head are replete with well-observed facts, and are full of excellent teaching concerning the treatment of wounds, and especially the extreme importance of cleanliness in dressings and instruments. The treatises on Fractures and Dislocations have been happily described by Littré as "the grandest surgical monument of antiquity."

THE LITERARY WORK OF CELSUS.

For the four centuries after the days of Hippocrates there are few literary remains of surgery until the beginning of the Christian era, when Celsus compiled his famous "De Medicina," the sixth and seventh books of which relate almost exclusively to surgery. Celsus's treatise on Medicine is the most complete, the most methodical and didactic medical work that antiquity has transmitted to us. Very little is known of Celsus's personality. Broca remarks that Celsus should be regarded as a book or an epoch rather than as a man. He is almost the only source of information in the important period between Hippocrates and the Christian era. But for him we should know little of the famous school of Alexandria, where, under the inspiration of Erasistratus and Herophilus and their disciples, anatomy and surgery were more cultivated than ever before, and where surgery made more progress in 300 years than in the following 13 centuries. Of the 72 authors mentioned by Celsus the only writer who has come down to us is Hippocrates. Celsus is, moreover, the first and only authority for many operative procedures which were employed in the Middle Ages and even down to our days. He mentions the use of ligature for bleeding arteries, and advises the complete division of a wounded blood-vessel after applying a ligature above and below the wound in the artery. His description of the operation for the removal of stone from the bladder is the first we possess, as is also his account of the amputation of a limb for gangrene. Hippocrates speaks of the mortification of a limb, and advises what should be done, but Hippocrates does not recommend *amputation* in our sense of the word; indeed, he is opposed to it. In gangrene of a limb he advises that the dead part should be *ablated* at the joint beyond the line of demarcation as soon as death and insensibility of the soft parts are complete. The remainder of the dead portion should be allowed to separate by natural processes. He records that in a case of this kind he had seen the denuded femur fall off on the eightieth day, the leg having been taken off at the knee on the twentieth day. Celsus's book is of value for another reason. Celsus was probably not a medical practitioner at all, but a learned, judicial, and impartial encyclopædist. In this respect he contrasts with Galen. Galen mentions some of the surgeons and anatomists of the Alexandrian school, but Galen is not always impartial. He is generally controversial and polemical, and too much concerned to defend his own opinions or to attack those of other writers. It is, however, noteworthy that, although the writings of Celsus are so precious to us, they do not seem to have influenced the early surgical tradition. For some reason which is difficult to explain his writings were rarely, if ever, quoted by later medical authors, and they seem to have been almost, if not entirely, forgotten until the fifteenth century, when a copy of the "De Medicina" was found in the year 1443 by Thomas of Sazanne, afterwards Pope Nicholas V., in the church of St. Ambrose at Milan. Celsus soon had his revenge, for on the invention of printing his was one of the first medical writings to be issued from the press. The first edition was printed in the year 1478, five years before the *Ars Parva* of Galen and the *Aphorisms* of Hippocrates.

GALEN'S REPRESSIVE INFLUENCE ON SURGERY.

Galen, a native of Pergamus, who flourished in the second half of the second century, was perhaps the most learned and most intellectual man who ever engaged in the study and practice of medicine. He was the greatest anatomist of antiquity and made several interesting anatomical and physiological discoveries, but in his varied and voluminous writings there is comparatively little relating to Surgery. Perhaps he never wrote the work on surgery which he intended to write, or, if he did write it, the work has not come down to us. We know, however, that he did practise as a surgeon in

his younger days. But after his second visit to Rome, about the year 170, he seems to have abstained from surgical operations and confined himself almost entirely to the practice of medicine. Moreover, his practical surgery was always reserved, if not timorous, and his influence upon Surgery was on the whole repressive. For example, his operation of amputation for gangrene was less radical and less bold than that of Celsus. Celsus advises that in amputation the incision should be made in the line of demarcation, but encroaching rather upon the living tissue, while Galen recommends that the incision should encroach on the dead tissues, trusting to the cautery to destroy the remnants of the gangrenous tissues left upon the face of the wound. It is clear that in Galen's time surgery was already beginning to decline. He himself remarks that in the days of Hippocrates all the rules of the surgical art were carefully studied, but that in his own day very little attention was paid to surgery, and often it was neglected altogether.

INTELLECTUAL DECAY OF THE ROMAN EMPIRE.

From the third, fourth, and fifth centuries few remains of surgical writings have been preserved, and those which have come down to us are embodied in the compilations of Oribasius and Aetius of the fourth century and sixth century respectively. By this time, however, intellectual night was beginning to settle upon the Western Roman Empire. The penetration and invasion of the barbarians and the crushing taxation necessary to maintain a large army, an expensive court, and a numerous body of officials involved the Western Empire in economic ruin. Excessive taxation wiped out of existence the middle classes, from which the professions were most likely to be recruited. Whole districts were depopulated and became solitudes. All the remains of Roman civilisation gradually disappeared. There were no schools, no literature, and the inhabitants of the Empire became barbarised. Learning died out and ancient civilisation came to an end. Medicine and surgery shared the same fate. The Germans who invaded the empire did not bring with them a new civilisation as the Romans did when they conquered Gaul, nor did they adopt the customs of antiquity as the Arabians did in the East three or four centuries later. They came with habits of life and government alien to those of the Romans; and yet in the fullness of time, under the organising genius of Charles the Great, the union of the fresh energy of the North with the memories and civilisation of the South constituted the beginning of modern history and of modern culture.

THE HELLENIC TRADITION OF SURGERY.

In the East the Hellenic tradition of surgery was continued, though precariously, chiefly under the influence of the writings of Paulus Ægineta, who flourished in the first half of the seventh century and studied at Alexandria shortly before that city was taken, in the year 640, by the Arabians under Amrou. Historically Paulus Ægineta is in some respects more important than Celsus, chiefly because he carries on the story for 600 years longer. Both were compilers; but while Celsus was, as I have already suggested, probably not a practising medical man at all, Paulus did engage in the practice both of medicine and of surgery, and was evidently an acute observer and skilled practitioner. In compiling his book on Medicine, he states that his object was to give a brief résumé of what had been written by the best authors before his time. His work was confessedly an abridged selection, and it was most intelligently done. He states that his compilation contains few of his own observations, except in a small number of things which he had seen and experienced in actual practice. The source from which he principally drew his material was the collection of Oribasius, most of which is now lost. Paulus Ægineta, like Celsus, is always impartial. He takes his descriptions from what he considers the best authorities, sometimes from one and sometimes from another, but always with regard to their practical superiority. He does not discuss theories or systems, and shows no preference for one school over another. The fifth book of his treatise on Medicine deals with wounds, bites, and poisoned wounds; the sixth with Surgery, which he regards as an integral part of medicine. Paul closes the era of classical Greek medicine and its traditions, and these traditions would apparently have entirely disappeared but for the intervention of the Mohammedans, who in the seventh and eighth centuries overran and conquered Syria, Persia, and Egypt. Strictly speaking there is no Arabian science or medicine; they were Greek, Persian, Spanish, and Jewish. The Arabians themselves had no taste or training for scientific or philosophical pursuits, but in the countries which they conquered they came in contact with much Greek and Oriental learning, which they soon absorbed and assimilated. Perhaps there is no more striking illustration of the continuity of history than the conditions which favoured the adoption and continuation of the Greek learning by the Mohammedans. These conditions had their origin in the conquests of Alexander the Great over 300 years before Christ. In Asia Minor and in Persia, and even in India, Alexander planted Greek settlements and founded Greek cities where Hellenic culture established itself. This culture was continued by Alexander's great successors, the Seleucidæ and the Ptolemies, whose policy was to blend schemes of civilisation and of literary and scientific research with their systems of civil administration. In the East Greek became universally the State language and the exclusive language of all literature and science. The Hellenic character that was thus imparted remained in more or less vigour down to the time of the Mohammedan conquests. Although the Mohammedans at first manifested fanatical hostility against much of the Greek learning, they made an exception in favour of medicine. In Persia and in Asia Minor there were many Greek philosophers and physicians, not a few of whom were Christians, especially the Nestorians. Through the agency of these Christian Syrians many Greek authors were translated into Arabic. Many Nestorian Syrians lived among the Arabians as physicians. Hareth ibn Kalda, the friend and physician of Mohammed himself, was a Nestorian. Schools of translators were established. The most famous of these schools was at Baghdad, the head of the school being the Nestorian Honain ibn Ishak. Amongst the earliest translations were some of the writings of Hippocrates, Galen, Oribasius, and Paulus Ægineta. The last-named was not only one of the first of the Greek medical authors to be translated into Arabic, but remained for many centuries the chief authority of Arabian surgery, of which the most distinguished exponent was Albucasis of Cordova in Spain about the end of the eleventh century. It is a further illustration of the continuity of history that whilst in Asia the

Arab conquerors yielded to the spell of an ancient culture superior to their own, they no sooner crossed the Straits of Gibraltar at the beginning of the eighth century than the rôles were reversed. The inhabitants of Spain rapidly became imbued with Moslem civilisation, and in the course of a few generations the Spanish converts to Islam were completely Arabicised. For several centuries some of the leading cities of Spain, especially Cordova and Toledo, became the principal seats of learning in Western Europe.

ALBUCASIS ON THE DECLINE OF PRACTICAL SURGERY.

Albucasis wrote a compendious treatise on medicine consisting of 30 books entitled, "Kitabu-t-Tasrif, Book of Derivations." The most important portion from our point of view was that on Surgery. Albucasis's surgery is based upon Paulus Æginetа, but without acknowledgment, just as the Latin translations of Albucasis were taken without acknowledgment by the surgeons of Northern Italy in the latter half of the thirteenth century. Practical surgery was then in a low state. In the introduction to his book on Surgery Albucasis remarks:—

> "Surgery is no longer held in honour in our country. It has disappeared almost without leaving any traces. There remain, indeed, a few vestiges in the writings of the ancients, but the transcription of them has been corrupted and error and confusion have been introduced, so that they are almost unintelligible and useless."

He adds that the chief cause why there were no skilful operators in his day was that the study of anatomy as it is described by Galen had been given up, and he states that he had seen an ignorant practitioner, in making an incision upon a scrofulous tumour in the neck of a woman, open the cervical arteries, so that the woman dies forthwith of hæmorrhage. Rhazes, a century before Albucasis, refers to the low state of practical surgery. He called most of those who practised it as "idiotæ, rustici et stolidi," who were unable to read books on the Art and had not been taught by a master who could read them. Owing to their stupidity, he says, they often aggravated the maladies which they undertook to treat.

EMIGRATION OF ITALIAN DOCTORS TO FRANCE.

It was from the translation of Albucasis into mediæval Latin by Gerard of Cremona that the revival of surgery in Northern Italy began. This revival had its chief seat at Bologna, whence surgeons migrated to the famous school of Montpelier and later to Lyons and Paris in the second half of the thirteenth century. Many Italian medical practitioners left their country in consequence of the troubles caused by the quarrels of the Guelphs and Ghibellines. They sought refuge on French soil, taking with them the doctrines and works of Albucasis. One of the first of these emigrants was Roger of Parma, from the school of Salerno. Following him were Bruno of Calabria, Lanfranc, and others. Lanfranc delivered a course of lectures on surgery in Paris about the year 1295. These were the first systematic lectures on surgery delivered in Paris, and were published under the title of "Cyrurgia Magna." He insists that surgery should be regarded as an integral part of medicine. Although himself a cleric, he condemns the physicians for having abandoned surgical operations to laymen and barbitonsors. "Why," he asks, "is there now so great a difference between a physician and a surgeon except that the physicians have relinquished manual operations? The physicians say that it is because they deem work with their hands beneath their dignity; but I believe," he retorts, "it is because they do not know how to do operations."

The influence of Lanfranc in France was, however, transitory, notwithstanding the endeavours of Henry of Mondeville, who shortly after wrote the first on surgery in French.

GUY—AN AUTHORITY IN SURGERY.

Mondeville's work was, however, soon eclipsed by that of Guy of Chauliac, completed in the year 1363. Guy was not only the most learned surgeon of his time, but perhaps the most learned surgeon of all time, and his book is one of the best ever written. Even to-day it may be perused with profit by anyone interested in the history and practice of surgery, especially the surgery of the Middle Ages. The work is largely based upon the writings of Rhazes, Avicenna, and Albucasis. As evidence of Guy's extensive learning, and as an indication of the wide range of his studies, it may be mentioned that he cites Albucasis 175 times, Aristotle, 62 times, Avicenna 661 times, Galen 890 times, Hippocrates 120 times, Lanfranc 102 times, Rhazes 161 times, Paulus Æginetа 10 times, and many other medical authors more or less frequently. He does not mention Celsus for the reason which I have already suggested, that Celsus's writings had been forgotten and lost and were not re-discovered until after Guy's time. In his remarkable introductory chapter entitled "Capitulum Singulare," Guy defines the nature and object of Surgery, amplifying somewhat Galen's definition. It is, he states, "the science which teaches the manner and quality of operating, principally in consolidating, incising, and performing other manual operations, healing men so far as it is possible." In the same chapter he traces briefly the history of surgery from the time of Hippocrates downwards, and remarks that up to the time of Avicenna and Albucasis all medical writers had been both physicians and surgeons, but that after him surgery became separated from medicine and fell into the hands of mechanics.

Guy observes that not only had surgery become separated from medicine, but that surgeons had themselves been split up into sects, of which he enumerates five. Only three of these need be mentioned now: first, that of Roger, Roland, and the Four Masters who sought to produce suppuration in all wounds and abscesses by means of poultices; the second, that of Bruno and Theodoric, who dried all wounds by the application of wine only; the third, that of William of Salicet and Lanfranc, who followed a middle course and dressed wounds with ointments and soothing plasters.

Guy's ideal of a surgeon was a noble one; the surgeon should be well-read, expert, ingenious, and well-mannered; he should be bold when sure but cautious amid dangers. Personally, Guy had great moral courage, as shown by his determination to remain at Avignon and attend to his professional duties during the severe visitation of the plague in the year 1348, while many other practitioners fled from the town. He was himself attacked, but recovered, and was again at the post of professional duties at the time of the next visitation of the plague in the year 1360. As a practical surgeon, however, Guy sometimes erred on the side of over-

caution. In his account of the treatment of a gangrenous limb he describes the operation of amputation as it is given in Paulus Ægineta, whose description differs only in some details from that of Celsus and Galen. He concludes by remarking: "As for myself, in these cases I envelope the whole of the mortified limb with many layers of adhesive plaster and then tie it up, maintaining the constriction until the line of demarcation liquefies and the limb drops off of itself. It brings more credit to the surgeon," he remarks, to "let the limb drop off than to cut it off, because when it is cut off there is always a feeling of rancour or regret in the patient's mind that his limb might have remained."

Guy was almost the only authority in surgery for at least two centuries—that is, until the time of Ambroise Paré. Paré was born in the year 1517, and when about 25 years of age went to Paris and became an apprentice to a barber-surgeon, probably his brother. He attended the instruction given to the apprentices of Barbers and Surgeons at St. Côme. This instruction consisted largely of explanations of parts of Guy of Chauliac. Malgaigne, in his learned introduction to Paré's works, says it is almost certain that the principal, if not the only, books read by Paré in his earlier years were those of Guy and a French translation of John of Vigo. As showing the esteem in which these works were held it may be noted here that Vicary bequeathed his copy of Guy's Surgery to the Barbers' Company and his copy of John of Vigo to one of his assistants.

Boiling Oil for Gunshot Wounds.

Malgaigne suggests that Vigo was probably too recent an authority to be admitted to the public course of instruction; but Paré himself tells us that he had read John of Vigo on gunshot wounds, and that when he first went to the wars he knew only what he had read in Vigo about these wounds; Vigo had recommended the use of boiling oil for gunshot wounds, believing them to be venomous. Guy was undoubtedly the more learned, but Paré was the better and bolder practical surgeon. It was perhaps to Paré's advantage that he was not learned. He was not hampered by the trammels of authority. His experience was eminently practical, and in his earlier life was acquired in the wars. He knew little Latin and no Greek, but he possessed what was better, a passion for knowledge, and he could use his eyes and ears and understanding. He is best known for the innovations which he made in the treatment of gunshot wounds and for the suggestion of the use of ligatures to the divided arteries in primary amputations. By a mere accident Paré was led to abandon the use of boiling oil in gunshot wounds, but the employment of the ligature for the divided arteries in primary amputation was the outcome of reasoned observation. Although fire-arms had been used in battle for a couple of centuries or more before Paré's time, it was only at the end of the fifteenth century that they became efficient weapons. The injuries which they inflicted were of an extent and kind previously unknown to surgical experience. The severity of the wounds, the smashing of bones, the laceration of flesh, and even the complete avulsion of limbs, the severe hæmorrhage and shock, were altogether different from anything that had been previously known to surgeons. These new experiences called for new procedures, and ultimately revolutionised the art of operative surgery. Up to Paré's time amputation of a limb was rarely performed except for gangrene, but Paré had to face the necessity of performing primary amputation. In amputation for gangrene, when the incision was made in or near the line of demarcation, the hæmorrhage, as a rule, would be slight and easily controlled by the actual or potential cautery, but in primary amputation Paré soon found the cautery was not sufficient. The copious flow of blood quickly quenched the cauteries, and even if the bleeding was temporarily arrested, secondary hæmorrhage frequently followed. To avoid this danger Paré proposed to tie the divided blood-vessels. There is some evidence that he did this for the first time in the year 1552, and yet two and a half centuries more were to elapse before the true principles of arterial ligation were discovered.

Paré's Ligature.

Much controversy has taken place with respect to the originality and value of Paré's innovation; but it must be remembered that Paré did not claim, as is sometimes thought, the credit of being the first to use ligatures to bleeding arteries. He knew that this was one of the modes of arresting hæmorrhage which had been known to and employed by surgeons for many centuries; but he was the first, or, at all events, one of the first, to employ the ligature in primary amputation. He did not, however, know the essential conditions of a successful application of ligature. He was not careful to isolate the artery and, indeed, recommends that it should not be isolated, arguing that the surrounding tissues should be included in the ligature, because the union of the vessels would take place better and more surely when the tissues were included. We know now that such a mode of tying an artery must often have failed, and that secondary hæmorrhage must have been a not uncommon sequel. The practice of tying an artery in amputation did not, therefore, at once commend itself to practical surgeons; and for many years it was opposed and condemned by most surgeons. In this country Alexander Read, lecturing on Surgery in the Barber-Surgeons' Hall in the year 1634, speaks of Paré's ligature as a "troublesome and dangerous toy." And yet the idea was a compelling one. Those who did employ the ligature were usually afraid to damage the coats of the vessels by too tight a constriction, and various contrivances were made to bind the vessel without injuring the coats. Multiple ligatures, reserve ligatures, broad ligatures, tapes and ribbons were used, or the artery was flattened against a roll of wood or other material, lest a fine ligature drawn sufficiently tight to stop the bleeding should damage the arterial tunics. Ligatures made of animal tissues, such as strips of untanned deer skin, were also tried. Even so sagacious a surgeon as John Hunter failed to discover the true path. In his first operation of the tying of the femoral artery for popliteal aneurysm he employed no less than four ligatures, thinking thereby to ensure greater safety. Fortunately, the operation was successful, in spite of the risk incurred by using multiple ligatures.

Progress along Two Lines.

Notwithstanding the failure and disappointment which attended the use of the ligature for more than two centuries and a half after Paré, observant practitioners were gradually making progress along two lines of advance. One set called attention to the increased safety of isolating the artery before tying it, and the other demonstrated the greater

safety of using fine ligatures tightly applied. But the full credit of discovering the true principles of arterial ligation belongs to Dr. J. F. D. Jones, a Member of this College, who published his treatise on the use of the ligature in the year 1805. By means of a few well-designed and skilful experiments on animals, chiefly horses and dogs, Jones discovered that the only safe and sure method of tying an artery was to apply a small ligature with sufficient force to divide the inner and middle coats. Hundreds of surgeons must, of course, have done this without knowing it; but Jones demonstrated why and how it must be done in every case.

When we reflect what a terror the risk of hæmorrhage had been to surgeons for more than 2000 years, and how faulty and misleading clinical and practical observation had been, and when we consider how many thousands of lives must have been lost from hæmorrhage before Jones's investigations, and how many hundreds of thousands of lives have since been saved by the knowledge of the truths which he discovered, it is hardly necessary to make any attempt to justify the use of the experimental method on lower animals. Jones does, however, defend it in noble but simple language, and on this note I will end:

"When we remember," he says, "the incessant carnage of war which has followed man through all the ages of his history, not to mention the consequences of accident and disease, it is not too much to assert that thousands might have been, and may still be, saved by a perfect knowledge of these subjects, which can only be directly obtained by experiments on brutes, and indirectly and very slowly by observations on the injured arteries of man, and even these cannot be made until he has fallen a sacrifice to the want of assistance or to the imperfect knowledge of the surgeon."

Presidential Address

ON

A PLEA FOR THE BETTER TEACHING OF OTO-RHINO-LARYNGOLOGY.

Delivered before the Section of Otology of the Royal Society of Medicine on Nov. 21st, 1919.

By HERBERT TILLEY, B.S. LOND., F.R.C.S. ENG.,
SURGEON, EAR AND THROAT DEPARTMENT, UNIVERSITY COLLEGE HOSPITAL, LONDON.

GENTLEMEN,—If English otology is to hold its own against other nations of the world I am convinced that our first efforts must be directed to the more efficient teaching of otology, rhinology, and laryngology in the medical schools of the United Kingdom. For until the student is shown the far-reaching importance of these subjects and is imbued with interest in them he will pass into practice ignorant of the diseases of one of the most important regions of the body.

I have used the words "of far-reaching importance" in reference to our subject, and no one of you will accuse me of employing exaggerated phraseology, but there are still many in the profession who do not view the matter from our standpoint. Among them are some whose past work quite rightly ranks high in the records of medicine and surgery, but to-day, unknown to and unsuspected of themselves, they are sitting on the bank while the stream of progress flows by them. Of course, we must bear kindly with such confrères as these and remember that the time may come when our own "pia mater" may lose some of its elasticity. Our efforts, therefore, must be directed to the plastic and impressionable mind of the medical student; and here we shall attain our ends if we place before him in well-balanced perspective the importance of a practical working knowledge of diseases of the ear, nose, and throat.

The task should not be difficult if we confine ourselves to general principles and do not dwell on technical details in diagnosis and treatment.

LIMITATIONS OF PRESENT CLINICAL INSTRUCTION AND NECESSITY FOR MORE TEACHING.

It is only necessary to mention a few of the reasons why the student should possess a more intimate and practical knowledge of diseases of the ear, nose, and throat than he does under the present system of training.

(*a*) Diseased tonsils and adenoids are responsible for a large proportion of the physical defects and backward mental development of young children, and a large proportion of ear disease is due to the same cause. Nevertheless, few senior students can make a satisfactory examination of these regions, and fewer still can treat them efficiently.

The student's appreciation of the portals of entry of systemic infection will be all the clearer if his teacher demonstrates the normal anatomy of the nose, pharynx, and naso-pharynx and then shows him cases in which the natural lymphoid deposits in the latter situations have grown to excess and taken the form of adenoid vegetations and enlarged tonsils. A few naked-eye specimens and microscopical sections of pathological conditions will illumine his mind concerning this great gateway of general infection by which pathogenetic organisms find their way into the cervical glands and to more distant regions. He will understand the basis of the modern views regarding rheumatic fever and rheumatism and see that these are merely names for an infective process which attacks the structures of the heart, joints, and muscles, and that it is probable the specific organisms often gain access to the system by way of the unhealthy lymphatic structures in the fauces and naso-pharynx.

If he once understands the arrangements by which the inspired air is filtered, warmed, and moistened before it arrives at the delicate ramifications of the lower air-passages he will at once grasp as an obvious corollary the evil effects of continuous mouth-breathing.

(*b*) Acute infections of the ear are most common in childhood, and much of the deafness met with in adult life is caused by neglect of treatment of these earlier phases of inflammation. Yet the average senior student and practitioner cannot examine a normal tympanic membrane, and still less could he inspect or treat one which is diseased.

(*c*) It is common knowledge that most cases of septic meningitis are due to neglect of suppurating lesions in the ear or in the accessory sinuses of the nose. It is probably no exaggeration to say that not 2 per cent. of recently qualified students could make a fairly accurate examination of the nose and its accessory sinuses nor, as above stated, of the tympanum and its adnexa.

A suitably sectioned skull, a few diagrams, and a clinical demonstration on a case of this kind in the ward will leave a lasting impression on his mind, and what is more important, he will appreciate the clinical significance and serious potentialities of neglected acute and chronic suppuration in the middle ear.

(*d*) The clinical significance of laryngeal lesions in the early stages of tuberculosis, syphilis, and cancer, and the importance of laryngeal paralyses in diseases of the nervous system, as well as in certain grave intrathoracic affections, is universally recognised. Nevertheless, very few students on the eve of qualification could see the vocal cords in a laryngeal mirror, and fewer still would be able to diagnose or treat the simplest diseases affecting those structures.

(*e*) In the orbital complications due to infections from the nasal accessory sinuses, the ophthalmologist is with increasing frequency seeking the assistance of the nasal surgeon, and it is probable that in the near future most cases of chronic suppuration in the lacrymal sac will be turned over to the rhinologist for operation from within the nasal cavities.

We should show the student how intimate are the anatomical connexions between the eye and the frontal, ethmoid, and sphenoidal sinuses, and he will then take a more intelligent interest in diseases of the eye when he passes into the ophthalmic department of his hospital.

(*f*) During the past twenty years the introduction of the direct method for examining the lower air-passages and the œsophagus has revolutionised the treatment of foreign bodies lodged in those regions, and the same method may often render invaluable aid to the physician both in diagnosis and treatment of disease in these localities. And yet many students have never even seen these methods employed.

A glance down the tube may create such an impression on his mind that it may bring a keen and able worker into our ranks; at the least it will prove to him that there are subjects outside his examination syllabus which he cannot afford to neglect, while a study of them will add an endless fascination to his work.

(*g*) The recent work in connexion with the physiology, pathology, and surgical treatment of the static portion of the "labyrinth" has greatly extended the scope of otology, and has been of material assistance to the neurologist in the diagnosis and treatment of certain hitherto obscure cerebral symptoms.

To the majority of recently qualified students such knowledge is at present a closed book.

To those of us whose daily round of work is wrapped up in these matters no stress need be laid on their importance, but when considering the medical curriculum of the student the question at once forces itself on us, How do we stand at the present moment in this matter?

POSITION OF OTO-RHINO-LARYNGOLOGY IN THE MEDICAL CURRICULUM.

Briefly stated the position is this. A knowledge (tested by examination) of diseases of the ear, nose, and throat is not made compulsory in the final examinations of any of the medical schools in the United Kingdom, nor by the Conjoint Board of the Royal College of Surgeons of England. Consequently, the student feels that he must put in all his time in getting up those subjects in which he knows he is to be examined, and, considering the present overcrowded curriculum, who shall blame him?

Hence it comes about that in this year of grace, 1919, a student may obtain his qualification to practise without ever having seen a normal or diseased tympanic membrane or the common types of nasal obstruction, and he would probably pose as a superior person if he could conscientiously assert that, unaided, he had seen the vocal cords in a laryngoscope. In fact, a large percentage of recently qualified students are well acquainted with the end-results of serious and irremediable diseases which they have seen in hospital wards, while they are innocently ignorant concerning those affections of the upper air passages which are the great portals of systemic infection, and where so much may be done to defeat the enemy before he has had time to entrench himself securely.

To such men, those of us who have been in general practice will extend their sympathy. Around him he will find children with "discharging ears," or suffering from "chronic nasal catarrh"; patients will consult him for sore-throats for which casual inspection gives no satisfactory explanation, and he is dismayed because they are unrelieved by the "Garg. pot. chlor." of his hospital pharmacopœia; one of them may suffer from chronic hoarseness, but he—the medical adviser—cannot get a view of the vocal cords, and when failure attends prolonged trial of anti-gout remedies some higher authority may have to inform the patient that he has an evil type of growth on the vocal cord which will demand an immediate and serious operation, or that the loss of voice is due to paralysis of a vocal cord caused by a grave lesion within the chest, or maybe to some disease which has declared itself in the central nervous system.

Yet again, our medical friend may have to stand helpless before an acutely inflamed tympanum which he can neither see nor treat, while the significance of a rigor associated with acute ear symptoms makes little or no appeal to his imagination. How he must pine to get a case of pneumonia, enteric fever, a "regurgitant mitral," an enlarged cirrhotic liver, a patient with Bright's disease, or an advanced case of pulmonary phthisis, for has he not often seen these in the wards of his hospital and been instructed how to diagnose them? Nay, more, has not the diagnosis frequently been verified in the dull limbo of the post-mortem room? This is no exaggerated or fancy picture, for I was once in general practice myself and speak of what I know.

In what way may this state of things be remedied? You will naturally say, "Why not persuade the examining boards to make otology, rhinology, and laryngology compulsory subjects and examine upon them?" This has been tried, but the reply has been, "The curriculum is already overcrowded, and no further burden can be placed on the student."

I have been at some pains during the past year to find out what regulations are in force in the medical schools of the United Kingdom concerning the teaching of diseases of the ear, nose, and throat, or what inducements are offered in that direction—e.g., whether a student may take those branches of study as a special subject for a medical or surgical degree. Let us look for a moment at the London medical schools, in which the large majority of students are being taught with a view to passing the Conjoint Board Examination of the Royal Colleges of Surgeons and Physicians.

At the present time in six of our teaching hospitals attendance is not *compulsory* for the conjoint student, although, as a rule, it is so for those who are preparing for a university degree. In others attendance in the ear and throat department is compulsory on all students, and in two of these hospitals they must, in addition, attend courses of lectures or demonstrations on the subject. In most of the universities of the United Kingdom outside London attendance in the ear and throat department is compulsory, and the student receives the encouragement that he may elect oto-rhino-laryngology as a special subject for his M.D. or M.Ch. degree.

And so it is with a sense of shame one has to confess that in this twentieth century the University of London stands almost alone amongst the universities of the United Kingdom in not requiring that its students shall possess some certifiable knowledge of diseases of the ear, throat, and nose. Neither does it offer any inducement in this direction by allowing candidates to elect these subjects for examination for its highest degrees in medicine and surgery.

IMPROVEMENT IN FUTURE PROSPECTS.

But I think no secret will be revealed if I tell you that this state of things will probably soon be remedied. During the past year Mr. Arthur Cheatle for otology and myself for laryngology and rhinology have brought the question before the Advanced Board of Medical Studies of the London University, and as a result of the sympathy and support of that Board I hope you will in the near future find that the Senate will permit these subjects to be taken as a part of the M.S. degree.

This should be a great help to us in securing the best type of specialists—i.e., men who have a thorough knowledge of general medicine and surgery, and minds capable of taking a wide view of the whole field of human suffering; we can expect little from those who, with a bare qualification to practise, at once commence to focus attention on some special department of the body. Such a course soon brings in its train a narrow and restricted outlook. Its exponents are of that type of specialist who treats a cough with some favourite cough mixture or local sedative without any search for a possible systemic cause of the symptom. With equal thoughtlessness he has no hesitation in applying the galvano-cautery to, or removing normal structures from, the nose of a young boy or girl who at ages from 14 to 16 may be suffering from a transient but nevertheless physiological congestion of nasal mucosa associated with other changes incidental to puberty. In fact, he endeavours to construct the pyramid of his knowledge with the small end for a foundation. If social or financial success is their goal such "specialists" may attain their reward, but they will not advance our knowledge in the subject. However, to those of us who are interested in otology its future should be full of good prospects, even though we feel at times as if we were struggling in a quagmire of administrative and lethargic incompetence.

In our favour is the outstanding fact that the ear and throat clinics of the United Kingdom are staffed by experts, while in nearly all our universities, if a student is attracted to the subject, he may elect to be examined in it for the highest degrees in medicine and surgery. Therefore it is up to the teachers to impress upon students the importance of a practical working knowledge of diseases of the ear, nose, and throat, and to urge on the medical committees of their hospitals that a minimum of three months be spent in the ear and throat department before an "attendance certificate" is granted allowing the student to enter for the final qualifying examination.

In the matter of post-graduate teaching the special hospitals as well as the medical schools can help. Let me express the hope that each member of this section will pull his weight in helping on any post-graduate scheme which may take shape in London. Many of our Overseas colleagues were much impressed by the efforts made on their behalf in 1918 and earlier in this year, and they look to us to establish a real, live post-graduate school or association in London, so that they are not driven, as heretofore, to Vienna, Berlin, Freiburg, or Paris.

Lastly, in connexion with the newly established Ministry of Health, I hope otologists will emphasise the importance of caring for the ears and throats of the nation's children—there should be scope here for the energies of many of our junior men. With hard work as our key we can unlock all the secrets of otology, and by its influence miracles may be wrought to-day as astounding as those of old: for its efficacy should be no less potent in our hands than it was in those of Harvey, Hunter, Virchow, Pasteur, or Lister.

To-day it is the fashion to decry work, to limit its exercise by arbitrary restrictions of time and output, and to bring to a dead level all human enterprise and initiative. May such legislation never thwart the workers in the realms of medicine and surgery, for "to travel hopefully is better than to arrive, and the true success is to labour."

REMARKS ON THE TREATMENT OF MALARIA IN ENGLAND.[1]

BY S. P. JAMES, M.D. LOND., D.P.H.,
LIEUTENANT-COLONEL, I.M.S. (RET.).

THE treatment of malaria is a subject upon which it is not easy to break new ground without raising controversial issues. In this paper I propose to remark briefly on some of the problems which at the present time confront medical practitioners almost daily in this country.

In the first place, it is well known that from March 1st this year the statutory duty has been placed on medical practitioners of notifying all cases in which a patient upon whom they are in professional attendance is suffering from malaria. There has been some difference of opinion among medical practitioners as to the interpretation to be placed on the word "suffering" in the Regulations, but since the order came into force, nearly 14,000 patients have been so notified, and it will be seen from the figures given in the following table that as yet the weekly number of notifications shows no sign of diminution.

Notifications of Malaria in England and Wales. 1919.

	Official notifications.	Additional cases reported by Ministry of Pensions since Oct. 4th, 1919.
March	598	
April	838	
May	1528	
June	1415	
July	2381	
August	2270	
September	1366	
October	1172	405
November (3 weeks only)	918	1247

Cases of malaria are now distributed almost everywhere in England and Wales, and a thorough knowledge of the diagnosis and treatment of the disease is thus not a matter which can be left in the hands of a few specially qualified officers, but must be communicated as widely as possible to medical practitioners throughout the country. Considering the notified cases from the point of view of treatment, by far the most important are certain cases in which the treatment of an acute relapse has not been successful in preventing a fatal issue. The number of deaths registered as due to malaria is usually in this country between 50 and 60 per annum, but in 1917 the number rose

[1] Read at the opening of a discussion on the Treatment of Malaria at the Medical Society of London on Nov. 24th.

to 126, in 1918 to 197, and in the present year, if the rate of mortality now prevailing continues, the number will be 280. The following figures have been kindly supplied to me by Dr. Stevenson, Registrar-General:—

Deaths from Malaria by Years and Age-groups.

Year.	Death from malaria in England. (Males and Females.)			Age-groups of deaths from malaria during the first quarter of 1919.	
	M.	F.	Total.	Age-groups.	No. of deaths.
1910 ...	44	7	51	Up to 15	1
1911 ...	56	2	58	,, 20	17
1912 ...	49	9	58	,, 25	15
1913 ...	49	9	58	,, 30	9
1914 ...	56	4	60	,, 35	12
1915 ...	55	10	65	,, 40	7
1916 ...	59	3	62	,, 45	4
1917 ...	122	4	126	,, 50	—
1918 ...	188	9	197	,, 55	—
First 3 months of 1919..	70	0	—	,, 60	1
				Over 60	4
				—	70

It will be seen that a disquieting feature of the deaths in 1919 (and the same was true of the deaths in 1918) is that most of them were of young men. Another serious feature is that in at least some instances death might have been prevented if all medical practitioners in England had a sufficient knowledge of the diagnosis and treatment of the disease. I do not desire to labour this point, but I have been so impressed by the sad nature of some of the fatal cases that I take leave to record one of them as briefly as possible.

A soldier who had suffered from malaria in Egypt came home on leave to a populous district in England on July 22nd. On the 24th he had a slight febrile attack, but got up next morning. On the 29th he had to go to bed again with fever and great aching in the bones, but it was said that he had no definite rigor or sweating. A doctor who was called in diagnosed influenza and prescribed a mixture containing sodium salicylate. On August 2nd the temperature was still high and there was much vomiting. The salicylate mixture was repeated. On the 4th the eyes were jaundiced and the liver somewhat enlarged. Malaria was then suspected for the first time, and a mixture containing 2½ gr. of quinine to the dose was prescribed, to be taken every four hours, but on account of the continuous vomiting it was doubtful if much could be retained. On the 7th the patient seemed better, but next day he was sullen, drowsy, and delirious, and passed porter-coloured urine. On the 9th both parotid glands became enlarged; on the 10th there was no fever, but jaundice had increased and the patient was only partly conscious; on the 11th he had a profuse sweating attack and died a few hours later. An examination of a film of peripheral blood taken after death showed numerous crescents and ring forms of the malignant tertian parasite.

I believe everyone will agree that in England a death directly due to malaria should be an exceedingly rare event. In this connexion I may remark that in the hope of preventing some avoidable deaths the Ministry of Health issued a note, published in the leading medical journals [2] last August, and that with a view to early inquiry into the deaths which may occur, it has since been arranged that registrars throughout the country shall send immediately to the Ministry a certified copy of the registration of a death attributed to malaria.

[2] THE LANCET, 1919, ii., 292.

Perhaps the next most important cases among the notifications are cases of malaria contracted in England. The total number of such cases which have been discovered or notified since September 1917 now amounts to 414. Among the cases which have occurred in the civil population it is very interesting that the great majority (75 per cent.) have been children under 15 years of age.

Inadequate Quinine Treatment.

The point which I desire to emphasise with regard to these indigenous cases is also brought out in the above fatal case of exotic malaria—namely, the quite inadequate quinine treatment which some of these patients received even after a definite diagnosis of malaria had been made. For example, a boy, aged 15, was admitted into a hospital in England on Oct. 12th and was found to be a case of malaria (with benign tertian parasites) on the 15th. He was severely anæmic and had a greatly enlarged spleen. At a visit to the hospital on the 21st it was found that the doses of quinine which were being given were quite inadequate for the cure of the patient. Fortunately in this case a suggestion that the doses should be increased was readily accepted with the result that the patient soon recovered. The temperature charts of two indigenous cases under treatment in another hospital in England were also instructive. The patients were children, aged 7 and 8 years respectively, and the insufficiency of the doses of quinine given was obvious from the slow recoveries and the early recurrence of fever.

An interesting comparison with the above cases is afforded by the chart of a chronic malaria patient from Salonika who was receiving (as anti-relapse treatment) 10 grains of quinine daily. In the former case we know that the daily fever was due to insufficient quinine. The chart of the latter patient was handed to me as an example of what is called secondary or "quinine fever," but on searching his peripheral blood thoroughly we were able to find malaria parasites; and when curative treatment was substituted for anti-relapse treatment the temperature fell quickly to normal and remained so. The fever, therefore, should have been described as "quinine-resisting fever" rather than as "quinine fever."

This subject of inadequate quinine treatment is also of importance in connexion with the serious cases of malaria which occurred during the war in great numbers on ships returning home from Dakar, Sierra Leone, and other West African ports. On this subject I have not time to say more than to express regret that the recipe of the "quinine mixture" given in the latest edition of the "Ship Captain's Medical Guide" still contains only two grains of quinine to the dose.

Suggestions for Improved Treatment.

I have unfortunately left myself very little time in which to refer to the more usual cases represented in the notifications, but I believe that the treatment of such cases will be fully dealt with by other speakers. I hope that they will keep in mind that we are desirous of receiving any suggestions which will simplify or improve the rules of treatment given on pages 15 and 16 of the official pamphlet, "Suggestions for the Care of Malaria Patients," which was issued to all medical practitioners early this year. Having in view that in present circumstances a practicable method of treatment must be a simple and inexpensive routine, I believe that no material change in those rules is necessary; but I am more than ever convinced that

the degree of success to be attained with any of the four methods of after-treatment mentioned in the pamphlet depends almost entirely on the administrative arrangements for ensuring that the routine is conscientiously followed. There are grave difficulties in connexion with that part of the problem, and until they are solved I doubt if we shall see a great diminution in the number of malarious patients in this country.

In the first place, although all demobilised soldiers suffering from malaria are entitled to receive treatment from an Insurance practitioner, it appears from recent inquiries that a great many men who still suffer from relapses have not applied to any medical practitioner for treatment since they were demobilised. The Ministry of Pensions have recently arranged to forward particulars of these cases (which presumably have not been notified) to the Ministry of Health, and the number of such reports which we receive each week now averages about 300.

Secondly, as regards the men who do place themselves under the care of a medical practitioner, there are great difficulties in exercising more than a small amount of supervision over their treatment, especially in country districts. Some of them are men who were gametocyte carriers when they were demobilised and still remain so. Some are men who think that they know much more than their physician about the best treatment for their particular case. Some are men whose illness is really a psychosis in which the patient continues to nurse a complaint the cure of which would deprive him of some benefits to which he is entitled while his disability lasts.

Malaria Contracted Locally.

As an unfortunate consequence of the neglect to continue systematic treatment after demobilisation some men have this year been the source from which members of their own family and visitors in their households have become infected with the disease. These occurrences show that arrangements for preventing the spread of malaria in this country are intimately connected with arrangements for ensuring the satisfactory treatment of demobilised soldiers. For this reason I welcome very heartily the recent institution by the Ministry of Pensions of a special malaria clinic through which, under the direction of Sir Ronald Ross, the systematic examination and treatment of pensioned soldiers in the London area is being undertaken. I suppose it is greatly to be regretted that it should be necessary to go to the expense of establishing such a clinic, but if it is the intention of the Ministry of Pensions to make similar arrangements in other parts of England, I would suggest that the next area selected should be one in which it would be possible to show that the establishment of the clinic had not only been the means of curing all the patients in the area, but had also, for that reason, been an effective means of preventing the occurrence of locally contracted cases.

DEATH OF MR. W. E. TAYLOR.—William Edmund Taylor, L.R.C.P., M.R.C.S., died suddenly at Hayle, Cornwall, on Nov. 11th, aged 30 years. The deceased was the son of Mr. E. J. Taylor, town clerk of Bristol. He received his medical education at Bristol, and after holding resident appointments at the Bristol General Hospital he received a temporary commission in the R.A.M.C. at the beginning of 1916. He was gassed and suffered from shell-shock whilst serving in France and was invalided out of the army in February, 1917. Later he joined Mr. A. D. Tenison, of Hayle, in partnership, and much sympathy is felt there for the widow and family.

THE PRESENT POSITION OF X RAYS AND RADIUM IN GYNÆCOLOGY.[1]

BY DAWSON TURNER, M.D. EDIN., M.R.C.P. LOND., F.R.C.P. EDIN.,
IN CHARGE OF THE RADIUM TREATMENT AT THE ROYAL INFIRMARY, EDINBURGH.

THE employment of radiation treatment in gynæcology dates from this century, the X rays were not discovered by Röntgen until 1896, and radium was not extracted by the Curies until 1898. Thus the treatment of disease by these methods is still in its infancy.

Production of the Radiation.

If the X rays are to be employed powerful apparatus is required, into the details of which I have not time to enter, except as regards the X ray tube. This may be a Coolidge tube or a water-cooled Müller with a diameter not less than 16 cm., and the rays emitted should have a penetration of 7–9 Bauer. Dr. Robert Knox has fitted a Coolidge tube to a rotating stand, so that a centrally situated tumour can be radiated from all aspects of the body; this has the great advantage that a large dose can be administered to subcutaneous tissues without an overdose to the skin. The X ray is of the same nature as a light wave, but it has a very short wave length.

If radium or mesothorium is to be used for most cases a suitable amount would be 100 milligrammes of pure radium bromide. Less or more than this can be used, the more radium the shorter the exposure. Dr. Howard Kelly uses a gramme to radiate the uterus through the abdominal wall. The radium at one's disposal should not be collected in one tube, but should be divided up into smaller amounts so as to distribute the radiation. For treatment of a case of cervical cancer one or two tubes could be placed in the cervical canal and the others around the os in the fornices. Tubes are more suitable for gynæcology than capsules. The salt is enclosed in a hermetically sealed glass tube surrounded by an aluminium tube again surrounded by a silver or platinum tube. In my own tubes the thickness of the aluminium varies from half a millimetre to a millimetre, and the silver from one to one and a half millimetres. If the tube be of platinum its thickness might be half a millimetre. It is better to use the solid salt where possible rather than the constantly decaying emanation. The solid salt being quite constant in its radiation, the dose can be accurately measured and the tubes need not be disturbed from their position

Effects of the Radiations on Normal and Abnormal Tissues.

I shall not attempt to make any distinction here between the relative effects of X rays and of radium rays, but shall class them both together. A small dose produces stimulation, a larger one produces inflammation which may be followed where the dose has been stronger by degeneration, necrosis, and sloughing. The effect on the skin somewhat resembles that of a burn. There is infiltration of leucocytes with degeneration of the squamous cells leading to an atrophy, which includes the hair bulbs and sweat glands, but these changes do not begin, as in the case of a true burn, immediately upon

[1] The substance of a lecture for the Edinburgh Post-graduate Course in Medicine.

the application of the irritant, but follow at some days interval. There is a latent period of from 5 to 10 days before any marked effect is observed. Muscle fibres undergo a form of hyaline degeneration and tend to be replaced by fibrous tissue. Blood-vessels become occluded by obliterative endarteritis. In nerve fibres neuritis or perineuritis may more rarely be set up. In the case of abnormal growths the basal action is to inhibit proliferation of the cancer cells[2] and to cause an overgrowth of fibrous tissue. The more rapidly growing, the more embryonic, the more malignant the cells the more susceptible they are to radiations. Sarcomata for this reason are more readily removed than carcinomata. But the lymphosarcoma is of all tumours, in the writer's experience, the most amenable to radium rays. The effect of radium rays upon a lymphosarcoma is almost magical and must be seen to be believed.

To the occlusion of the blood-vessels produced by radiation must be ascribed the checking of the hæmorrhage associated with uterine fibroids or other pelvic troubles. Hæmorrhage is an indication for radiation treatment. The writer has had to deal with growths which before radium treatment were as vascular as an aneurysm, but which after treatment were almost bloodless, the vascular having been replaced by fibrous tissue.

Fibroids and Cancer as Indications for Radiation Treatment.

1. *Uterine fibroids.*—These may be treated by X rays or by radium, or by the two combined.

Indications for X ray treatment: The patient's age should be between 40 and 55. The size of the fibroma should not be too great. The interstitial growth is more suitable than the pedunculated and the subperitoneal. Where hæmorrhage is a prominent symptom the best results are to be expected. Contra-indications: Fibroids setting up urgent pressure symptoms; complications such as lateral inflammations, pelvic peritonitis, ovarian cysts, calcification.

The technique for application of X rays varies in different places. The Freiburg technique will be found in Dr. Robert Knox's book on Radiation Therapeutics (p. 472). An interesting paper by Dr. Delpratt Harris[3] should also be consulted. Some improvement results from X ray treatment in the majority of cases, especially in those near the climacteric period. Some fibroids diminish steadily though slowly; others seem to be but little affected. Hæmorrhage is controlled.

The indications for radium treatment are much the same except that, according to Dr. Kelly, who has led the way in this method, there need be no such age-limit as 40 years as there is in the case of X ray treatment. Young women can be treated as effectually as old women. Dr. Kelly has treated 210, and explains his technique, which aims at the production of an amenorrhœa, which shall last until the fibroid is gone, in a paper which appeared in October, 1918.[4] Wickham, Degrais, and Cheron also report satisfactory results. Of 120 cases, Cheron states that the menopause was brought on in 117 and the size of the tumour markedly reduced in 108.

With regard to the relative merits of the X ray and of radium, it seems to the writer that the employment of radium internally is to be preferred, both because the method is less complicated, stronger doses can be given, and there is no risk of injuring the skin. Quigley[5] is of opinion that the wall of the uterus has four times the resisting power to radium that the surface skin has, and that it is, in fact, the most highly resistant of any organ.

2. *Cancer.*—Carcinoma of the vulva can be treated either by X rays or by radium. It is not very amenable to treatment, but the writer has seen temporary improvement by the employment of both methods. Dr. Arthur Burrows[6] reports that of 15 cases of carcinoma of the vulva and vagina 3 were well at the end of a year, 2 were improved, and 5 were not improved.

Carcinoma of the cervix: This from its position can only be satisfactorily treated by radium, and very good results are obtainable. All the authorities are agreed as to this. Thus Dr. Burrows[6] reports: "The bests results in malignant disease were obtained in cases of carcinoma of the cervix." The Freiburg school assert that operation is no longer necessary in cases of cervical cancer, and that the results of radium treatment often result in what amounts to a virtual resurrection. Ransohoff[7] refers to a patient suffering from inoperable cancer of the uterus, who died of intercurrent disease several years after undergoing the radium treatment, an autopsy showing complete anatomical cure. Cheron and Duval report a similar case. The patient died 15 months after the radium treatment had resulted in apparent cure, and histological examination did not reveal a single cancer cell in any part of the body.

In order that a malignant growth may be successfully treated by radium the growth must be localised and accessible; further, the whole of the growth must be given a sufficient dose—the periphery as well as the centre. Now, in the majority of cases recommended for radium treatment these conditions are impossible of attainment, because the growth is a recurrence and is widespread. Take the cases of cervical cancer, in which the broad ligaments are involved before the aid of radium is called in. The cervical part of the disease can be given a sufficient dose so as to cause its disappearance; but how can the outlying cancer cells be efficiently radiated? It is the writer's experience that cases of cervical cancer, if not too far advanced, are, when treated by a radium expert, temporarily cured, but that recurrence after a time is common. The reason for this is that the more distant cells escaped a lethal dose, and though at the moment of the exposure they were overwhelmed and prostrated, yet in course of time they recover sufficiently to recommence proliferating. A recurrence can again be subjected to radiation, but, as a rule, less successfully, and this for two reasons. The one because the developing cells are in a less accessible position, the other that after a course of raying only those cells survive which are more or less refractory to the rays, and a recurrence consisting of such cells or daughter cells is less susceptible to attack. There is a tendency by natural selection to breed cells which are immune.

Early cases would probably be completely cured by an efficient course of radium treatment. The writer has only had one such case, but it entirely answered his anticipations. Yet even in the advanced cases the patient may greatly benefit by the removal of pain, the cessation of discharges, and by a general gain in health and strength.

[2] Levin and Joseph: Annals of Surgery, vol. lxvii., p. 442.
[3] Brit. Med. Jour., Sept. 20th, 1919.
[4] Surgery, Gynæcology, and Obstetrics, October, 1918.
[5] Therapeutic Gazette, August 15th, 1919.
[6] Report of Manchester and District Radium Institute, 1918.
[7] Annals of Surgery, 1916, p. 298; Radium, February, 1916, p. 111.

Technique.

A preliminary curetting is often of service; this acts by removing part of the growth and by permitting the radium to be applied more effectively to the root of the disease. The radium can then be introduced while the patient is still under the anæsthetic. Place one or more tubes in the cervical canal and pack others round the cervix in the fornices. Each tube should be provided with an eyelet to which a piece of silkworm gut is attached. These threads should be led out between the labia and their ends attached by plaster to the abdomen. The writer prefers to use the solid salt rather than the emanation, because there is no dubiety as to the dose, and the tubes can be left in as long as may be necessary for a sufficient dose. The tubes should be kept in their position by gauze packing. The glass tube containing the radium is enclosed in an aluminium tube 1 mm. thick and this is put into a silver tube also 1 mm. thick, the whole is then protected by a rubber cot; thus the rays have to traverse the glass, the aluminium, and the silver, and the source is always at least 4 to 5 mm. away from the tissues. The amount of radium in each tube may vary from 10 to 100 mgs., but it is better to have several tubes containing small amounts rather than one or two containing a large amount.

It is important to give at the first a sufficiently large dose, and the writer is accustomed to administer from 5 to 10 and even to 15 thousand milligramme hours. He has never seen bad results follow such doses. Suppose that the total amount of radium employed in a particular case amounted to 100 mgs., then a dose of 10 thousand milligramme hours would be administered by keeping it in situ for 100 hours. The gynæcologist may suggest that it might be well to divide the exposure into two or more parts at intervals of a week or two, but this does not answer and the whole dose should if possible be given at once. The patient should be kept in bed for a short period after the exposure and should be douched. She may then return home, but should report herself in about three months if all be going well. By this time it is possible, and even probable, that all the local evidences of the disease will have disappeared. I will conclude by quoting two cases, one of epithelioma, the other of sarcoma.

Description of Two Cases.

(1) Rapidly growing fungating epithelioma. A patient, aged 63, was recommended on Oct. 16th, 1916, for radium treatment by Dr. John Orr and Dr. William Fordyce. She was suffering from a squamous epithelioma growing from the vaginal roof behind and to the left of the cervix. There was a soft fungating gangrenous mass in the above position. This was removed by operation in September, 1916, and the base of it scraped and pure carbolic acid applied. Pathological report: Squamous epithelium showing marked necrosis. Ten days later the mass had grown again to half its previous size, the discharge was very fœtid, and the same necrosis was present. The mass was again removed and tubes of radium were applied to the base and maintained there until a dose of 4900 milligramme hours had been given. This put a stop to the further development of the growth, for two years later, in November, 1918, Dr. Orr reported that the patient appeared to be quite well. She has not needed a doctor for the last 18 months; she is able to do all her work, and her only symptom is a slight discharge. As she considers she is quite well she refuses to come to the Royal Infirmary to see Dr. Fordyce.

The last report regarding this patient was received on Sept. 23rd, 1919, and this was to the effect that there has been no recurrence of the malignant growth.

(2) Sarcoma of cervix. A patient, aged 47, was recommended for radium treatment on July 20th, 1916, by Dr. A. H. F. Barbour. Duration of the disease one year. Complains of a bearing down pain and discharge. On June 26th, 1916, the cervix, found to be ulcerated by Dr. Fordyce, was curetted. Pathological report: Sarcoma. Dr. Barbour examined her on July 20th, 1916, and found hard nodules all round the cervix except posteriorly. The right broad ligament was thickened. Body of uterus unaffected. Hysterectomy unsuitable. A dose of 4300 milligramme hours of radium was administered. In two months' time the nodules had disappeared. In four months the parts seemed quite healthy; no discharge; patient much stronger. After a lapse of two years and four months—viz., in November, 1918—the patient was re-examined by Dr. Barbour, whose report is as follows: "The cervix is small, nearly flush with vaginal roof, firm, almost cartilaginous, but showing no evidence of return of sarcoma."

Owing to the length of time that this patient has been free from recurrence, Professor Lorrain Smith kindly re-examined the microscopical section.

DIATHERMY.

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SINCE the introduction of diathermy the treatment of epithelioma of the mouth and pharynx has been entirely revolutionised. Although this method of destroying malignant growths has been employed in this country since 1910, it is remarkable to find so little general recognition of its value. It is not uncommon to hear general practitioners, surgeons, and specialists referring to diathermy as if it were a method to be used in hopeless cases only; as a palliative and nothing more; or as an alternative to the cautery in the destruction of innocent tumours. During the last five years the author has had very considerable experience of diathermy, and, from the survey of a large number of cases, he has come to the conclusion that in cancer of the bucco-pharyngeal cavity it ought entirely to supersede cutting operations.

The unpopularity of diathermy is to some extent due to the fact that a costly and somewhat cumbersome apparatus is required to produce the special electric current necessary for its application, that the mechanism is complicated and apt to get out of order, and that the operation itself is liable to be tedious. Perhaps in the minds of some surgeons the method is lacking in precision, but this idea can only be the outcome of unfamiliarity or prejudice.

Apparatus and Technique.

A short description of the apparatus employed may not be out of place. Instruments are manufactured by Schall, Griffe, Siemens, and other firms. These instruments aim at the production of a high-frequency current; the current reverses its direction at the enormous rate of, perhaps, 1,000,000 times per second. One electrode is placed over the chest or abdomen; it is a large plate, and between it and the skin are interposed several layers of lint well saturated with normal saline. The electrode used for destruction of the tissues may take the form of a needle, narrow spatula, or button. The handle is insulated, and further insulation is obtained by the operator wearing rubber gloves. Owing to the resistance offered to the passage of the current, heat is produced and the albumin present in the tissues is coagulated. Coagulation passes for a considerable distance beyond the

electrode. When using an ordinary cautery point destruction is limited to the immediate neighbourhood, and the all-important effect of penetration is lost. (Vide Fig. 1.) Different types of electrodes will be required according to the nature of the tumour, its site, and the method employed in its destruction. The electrode is applied before the current is turned on, and the current is switched off before its removal. If applied or removed when the current is flowing sparking will result. It is well to begin with a weak current, gradually increasing its strength till bleaching of the tissues in the vicinity of the electrode occurs; a few seconds later bubbles will appear, and then it is nearly time to transfer the electrode to a different spot. Once the correct current has been found for any particular electrode it need not be altered.

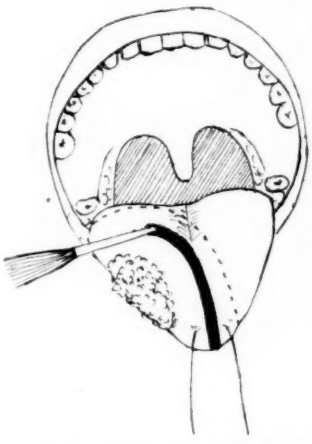

FIG. 1.—Diagrammatic representation of the method by which a portion of the tongue may be excised by diathermy. The dotted line represents the probable extent to which sloughing will take place.

In the region of the upper air and food passages the tumours which best lend themselves to treatment are those involving the buccal cavity and oropharynx. When dealing with malignant disease in this neighbourhood by ordinary surgical methods we find that the farther back the growth the more difficult as a rule its extirpation becomes, and when the tumour involves the base of the tongue and epiglottis eradication with the knife is a formidable and hazardous procedure. The above statement is true also of diathermy, but to a much more limited extent. Here the main difficulty is one of exposure; but once the growth has been brought thoroughly into view its destruction is accomplished with scarcely any more difficulty than is the case with tumours situated farther forward. By using the suspension method, which will shortly be described, the lingual tonsil and epiglottis can easily be brought within reach of the electrode. In cases of carcinoma of the floor of the mouth, or where the disease, starting in the tongue, has spread to this region, removal by ordinary surgical methods involves extensive dissections and frequently division of the jaw. When diathermy is employed for these cases the whole procedure can be carried out through the mouth. If the periosteum of the mandible or maxilla is involved, or even if the bone itself is invaded, that periosteum or bone can be completely destroyed. At a subsequent date a sequestrum will separate and may require to be removed with forceps. In some cases where the disease has deeply infiltrated the tissues, causing a swelling in the neck that appears to be continuous with that in the mouth, the needle can be plunged into the floor of the mouth in many places, and partial destruction of the tumour thus accomplished. At a subsequent operation the remainder of the mass can be removed by dissection carried out through the neck, the anterior triangle being cleared of glands at the same time. Such a case is now alive and well four years and a quarter after his first treatment. In a case of this sort considerable difficulty will be experienced in dissecting out the submaxillary space; adhesions following the diathermy are probably present, and anatomical landmarks may be sought for in vain. The dissection will be facilitated by first of all securing the arteries entering the mass from below and the veins running in from above.

The tumour may be so situated that, in order to expose it for the application of diathermy, a preliminary cutting operation is necessary. In one of my cases a large epithelioma grew from the base of the skull, occupying the whole naso-pharynx. The growth was thoroughly exposed by preliminary division of the soft palate, coupled with removal of the posterior portion of the hard palate and septum (in dividing the soft palate the incision should commence to one side of the base of the uvula, and should not cleave that structure).

In cases of epithelioma of the nasal vestibule, especially if the disease extends some distance backwards, the ala nasi may have to be turned to one side, or some other method of exposure involving a cutting operation carried out, in order to obtain a full view of the affected area. Again, where the growth lies underneath the skin, but well free of it, the superficial coverings can be reflected and, after diathermy is completed, replaced.

Advantages of Diathermy over Cutting Methods.

The main advantages which must be claimed for diathermy over cutting methods are the following:—

1. Bloodlessness. If the current is properly regulated and sharp-edged or sharp-pointed electrodes avoided, the operation can be conducted without any immediate hæmorrhage. Occasionally when using a fine-edged tool, especially if it is being "pressed through the tissues," free hæmorrhage will occur. It is well, therefore, to be careful when working in the neighbourhood of large vessels. If an artery is accidentally cut it can be clamped and diathermy applied upon the proximal side of the clamp, or a blunt-ended electrode may be placed over or around the bleeding point. Either of these methods is better than an attempt at ligature. Freedom from hæmorrhage at the time of operation does not mean that bleeding, even of an alarming nature, may not take place subsequently; it is specially liable to occur when the sloughs are beginning to separate. Further reference will be made to this complication.

2. Total destruction of the tissues in the neighbourhood of the terminal and the impossibility of cell implantation. If the diseased tissues are entered by the electrode, no harm can result from using the same instrument for the severance of healthy tissues in the neighbourhood of the growth; diseased and healthy cells are alike killed.

3. Sterilisation of the parts. Not only are the tissues which come in contact with the instrument killed, but any pathogenic organisms lying in the field of operation are destroyed. Therefore the patient, besides being rendered safe from the implantation of malignant cells, is less likely to suffer from bacterial infection.

4. Structures some distance from the electrode are destroyed. In any given case, provided the operation be planned so that the electrode is applied

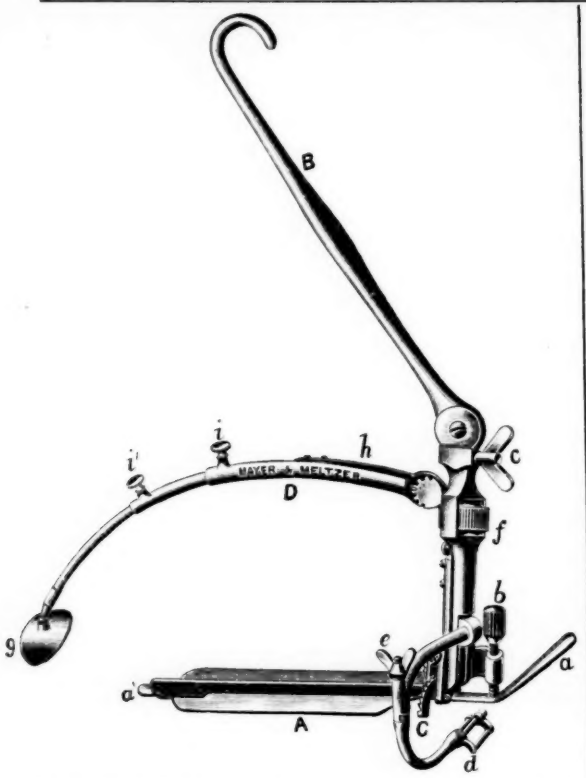

FIG. 2.—Illustrating suspension apparatus. A. Tongue spatula with movable flanges or wings to prevent the tongue bulging and overlapping. Pressure on the roughened knob, not seen in the illustration, releases the ratchet and enables the spatula to be closed. The narrow elevator *a a'* is for raising the epiglottis; it is fixed in position by means of screw *b*. B. Spatula hook. The inclination of spatula can be altered by means of screw pinion *c*. C. Gag. The bar *d* fitted with swivel plate, for upper teeth or edentulous jaw, swings horizontally, being fixed in position by screw *e*. It is opened and closed by milled screw *f*. D. Counterpressor with cricoid plate *g*. Pressure on the spring *h* releases the ratchet and enables the arm to be raised or lowered; the screws *i i'* fix the telescopic arms at the correct length.

three-quarters of an inch beyond the tumour margin the actual destruction will extend to a distance of an inch to an inch and a half from the edge of the growth, that distance depending on the form and size of the electrode, the strength of the current, and the character of the tissues. This is a very important point in contrasting the diathermy method with that of excision with the knife.

5. Vascular structures situated in the area of destruction are sealed up, so that absorption of bacteria and toxins is less likely to take place. This may explain the absence of marked inflammatory reaction and elevation of temperature which is noticed in so many cases.

6. Shock is generally much less than after a cutting operation. The explanation may lie, to some extent, in the fact that any nerve filaments encountered are thoroughly "cooked" in the process of diathermy.

7. The ease with which, if reappearance of the tumour takes place, diathermy can be applied again. I have had excellent results where two or three operations have been carried out as the disease manifested itself afresh.

8. The scar is probably denser and spreads further into the surrounding tissues than is the case after cutting operations. It is well known that scar tissue acts as a barrier to the spread of malignant disease.

9. Tumours so situated that their removal with the knife is only possible after an extensive neck dissection can be dealt with per vias naturales—e.g., epithelioma of the base of the tongue, epiglottis, aryteno-epiglottidean folds, floor of the mouth, &c.

10. The operation is conducted in a bloodless field, and the limits of the tumour can therefore be defined with greater accuracy.

11. Patients too old or too feeble to undergo a cutting operation may sometimes be subjected to diathermy, and the operation, if thought desirable, can be carried out at several sittings.

12. The growth is practically always approached from the mucous membrane surface, or surface of origin, a point of no small importance.

Method of Using the Instrument.

There are various ways of destroying a growth; the simplest of all is to go over the surface of the tumour, plunging the electrode through the diseased tissues in many places till the whole area is covered. This procedure, however, is somewhat haphazard, and it is better to adopt a more methodical plan. Having brought the surface of the growth fully into the field of operation, begin by drawing a line round it in the healthy tissues, three-quarters of an inch (if this is possible) from its margin. Everything within this line should now be destroyed. Some idea will probably have been obtained beforehand of the depth to which the disease penetrates the tissues, and the operator must try to get beyond

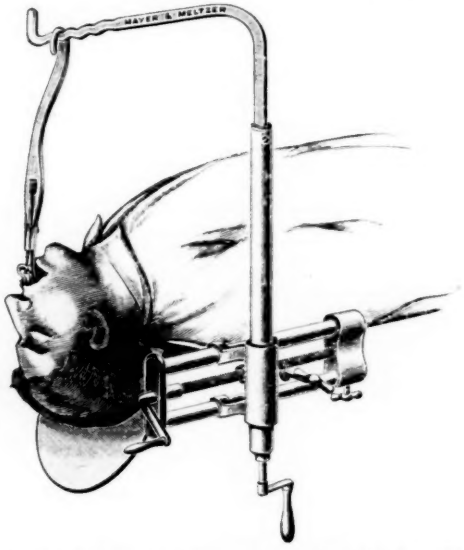

FIG. 3.—This diagram shows the suspension apparatus in position.

the deepest part of the tumour by three-quarters of an inch. Some growths are flask-shape, and the extent of the superficial manifestation may be no index to the size of the tumour mass. For instance, a small ulcer may be present on the tongue, but when that organ is grasped between the finger and thumb it will be found to be extensively infiltrated; cases of this sort sometimes require removal of the greater portion of the tongue. The tumour mass, as it is coagulated, can be scraped away with a spoon, and deeper layers of tissue in succession subjected to diathermy. It is generally easy to ascertain whether the walls of the resulting cavity are formed of normal or of cancerous tissue.

A third method—viz., complete excision of the growth, using the diathermy electrode instead of the knife—is, when possible, perhaps the best. The method is carried out as follows: a line is drawn round the epithelioma as before described; this line is deepened, care being taken to plunge the instrument into the tissues at right angles to the surface, or even to slant it outwards from the growth. (Vide Fig. 1.)

When dealing with tissues which contain no large vessels—e.g., dividing the centre of the tongue or palate—or when the main vessel of supply has been ligatured, I sometimes use an instrument with a comparatively sharp edge. Progress is much more rapid, but great care must be taken to avoid anything like a sharp instrument in tissues which are highly vascular. Sometimes scissors or an ordinary knife may be used in liberating the tumour from its surroundings; only coagulated tissues should be divided in this way, and there should be no bleeding. Rather than risk the occurrence of hæmorrhage, avoid cutting instruments altogether. When a trench has been dug to the required depth—that is, well below the deepest portion of the growth—the edge of the tissue to be removed should be grasped at one point with vulsellum forceps and the diathermy carried beneath the growth so as to separate it from underlying structures. In this way the tumour, together with a sufficient margin of healthy tissue, is removed. The process is a tedious one, but it often repays extra time and trouble. During separation of the mass it is easy to ascertain whether or not the removal has been carried out through the non-invaded tissues. When dragging forcibly with the vulsellum healthy structures stretch; thus, coagulated muscular fibres and fibrous tissue can be distinguished from the tumour itself, which breaks across and tears very readily.

After the tumour has been removed the whole cavity from which it was taken should be methodically and thoroughly subjected to diathermy. For this purpose a button-shaped terminal is used. Special attention must be paid if there was any doubt as to the section being well wide of the growth in any region.

When rapidity is all important I have adopted another method. After ligature of external carotid I rapidly dissect out the tumour with a knife or scissors and apply diathermy over the whole surface of the resulting cavity; this method will seldom be necessary. During the operation sparking may take place. It is liable to occur when the instrument becomes covered with dried tissues. When it does occur the electrode should be cleaned by scraping or wiping off the charred material. The electrode may then be moistened with saline and a little saline solution dripped into the wound. Ether should be avoided as an anæsthetic on account of the possibility of igniting the vapour.

Method of Exposure.

Growths in the anterior part of the mouth require no special method to bring them into view. In cases where the disease is situated at the base of the tongue, on the tonsil, faucial pillars, or posterior pharyngeal wall, or where it involves the epiglottis, aryepiglottic folds, or the larynx proper, the best means of obtaining a good view is by using the suspension apparatus. This is really a combination of a gag and tongue depressor. The pressure necessary for keeping the tongue down is obtained by utilising the weight of the patient's head, which is allowed to hang over the end of the table, the face looking obliquely upwards, and the neck being on the stretch. The tongue depressor and gag are in one piece and the two are hung from a horizontal bar (vide Figs. 2 and 3). There are various screws for adjusting the instrument. The tongue depressor has a slot along which an extension can be slid, and by this means the epiglottis can be depressed and a view of the larynx obtained. Without this instrument it is difficult to operate with precision on tumours of the oro-pharynx, and extremely difficult when the tumour is situated in the neighbourhood of the epiglottis or larynx proper. If the growth is in the centre of the lingual tonsil the tongue depressor will have to be adjusted to one or other side of the middle line or it may conceal the very region where the attack is to be made.

Before commencing any operation all septic teeth should be attended to, and this generally means extraction. Diathermy, however, may be undertaken when the mouth is in a septic condition without running anything like the same risk as when the tissues are laid bare with cutting instruments. This is no argument, however, against a thorough cleansing of the mouth prior to operation.

Positive and Negative Indications and Precautions.

In my experience diathermy is not often successful where the growth is situated in the larynx; here there is danger of swelling giving rise to obstruction to breathing, aspiration of sloughs, sloughing of the framework of the larynx, and possibly abscess in the neck. It is not to be used as an alternative to laryngo-fissure in the treatment of intrinsic cancer. When the epiglottis or aryepiglottic folds are involved the results may be good, and even growths occupying the pyriform fossa may be so treated, but diathermy in this region is liable to be followed by sloughing of the thyroid cartilage. When the neighbourhood of the aperture of the larynx is involved a preliminary laryngotomy or tracheotomy may be advisable, and some cases of carcinoma of the base of the tongue may demand it from the anæsthetic point of view.

In some cases, especially when the growth is planted deeply in the tissues, there is very considerable risk of secondary hæmorrhage; this is most liable to occur about the fifth to the seventh day, but I have seen it three weeks after the operation. It therefore becomes a question whether it is not advisable to ligature the main vessel of supply to the area. In the case of the tongue ligature of the lingual may suffice, although, as a matter of fact, there is not generally much trouble from hæmorrhage when the anterior part of the tongue has been dealt with. If the tumour involves the pillars of the fauces and base of the tongue, or if the palate and tonsil are extensively affected, it is sometimes advisable to carry out a preliminary ligature of the external carotid and ascending pharyngeal. This is the more necessary if the patient has degenerated arteries and a high blood pressure. Another advantage of cutting off the main blood-supply is that sloughing is more pronounced, and therefore the chances of complete eradication of the disease are increased. A disadvantage lies in the fact that subsequent removal of the cervical glands may be rendered more difficult. In some cases removal of the glands, ligature or excision of the carotid, and diathermy of the growth may be undertaken at the same sitting.

The question of the removal of glands is a most important one; it should be carried out in all cases. The usual time selected for the dissection will be from three to four weeks after the operation on the primary growth. The removal of the glands draining the affected area, together with the deep fascia, should be carried out whether any palpable enlargement exists or not. Extensive dissections reaching from the base of the skull to the clavicle

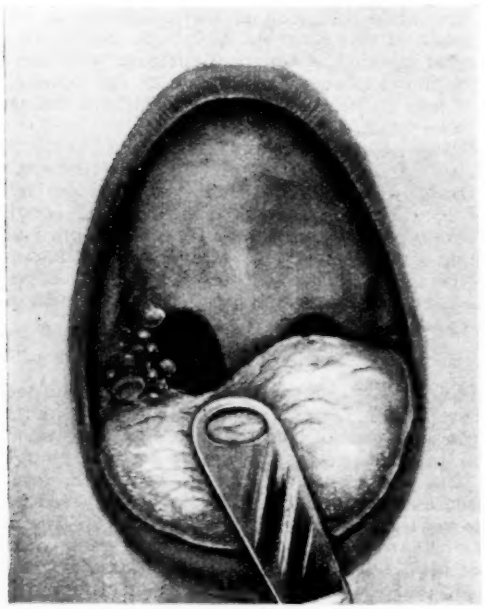

FIG. 4.—Epithelioma of the tonsil and tongue.

may be necessary; the posterior as well as the anterior triangles will sometimes require to be cleared; and in some instances the sterno-mastoid must be cut across, turned aside temporarily, or partly removed. A portion of the jugular vein will be removed when necessary. When the primary growth approaches or crosses the middle line an operation should be carried out on both sides of the neck. Although the general rule, as far as the neck is concerned, is that the best results are got in those cases where glandular enlargement is slight or non-existent, I have met with some cases which have been free from recurrence years after the removal of large masses. Diathermy may, in a few cases, be carried out on the primary tumour when the glands are inoperable, simply to make the patient more comfortable. It has been suggested that the glands themselves might be treated by diathermy, but from the nature of their anatomical relationships it is not a method which commends itself to the surgeon. If the glands are movable and removable the knife should be employed; it is only by this means that the muscular and vascular structures of the neck can be entirely stripped of glands and fascia. There is one consideration to be borne in mind with regard to neck dissections in these cases: they may be difficult on account of inflammatory and fibrotic changes in the tissues as the result of the previous diathermy. Markedly will this be the case when clearing out the submaxillary region after deep diathermy in the floor of the mouth; here the structures may have "run together," making the dissection difficult indeed. I have carried out a large number of dissections in the neck following the application of diathermy in the neighbourhood of the tonsils, and have met with no particular difficulties. The consent of the patient for these neck operations should be obtained before commencing treatment on the primary growth.

Some surgeons advise removal of the glands as a primary procedure. This does not seem logical. Fresh deposits in the neck and rapid developments of these may occur even before the primary tumour can be treated. It is only when it is thought that the patient will withhold his consent to an operation on the glands, once the primary and troublesome condition is removed, that the neck operation should be carried out first. Sometimes the glands and primary growth can be dealt with at the same sitting. (Figs. 4 and 5).

After-treatment and Complications.

The after-treatment of diathermy cases consists mainly in constant cleansing of the mouth and pharynx with a mild antiseptic mouth-wash or spray and in assisting the patient in his swallowing difficulties. A soft or fluid diet will be necessary at first. In some cases the patient may more easily feed himself by sucking up nourishment through a glass tube; in others, artificial feeding through a nasal tube or Hill's œsophageal tube may be necessary. After each feed the mouth should be thoroughly cleansed. When the neighbourhood of

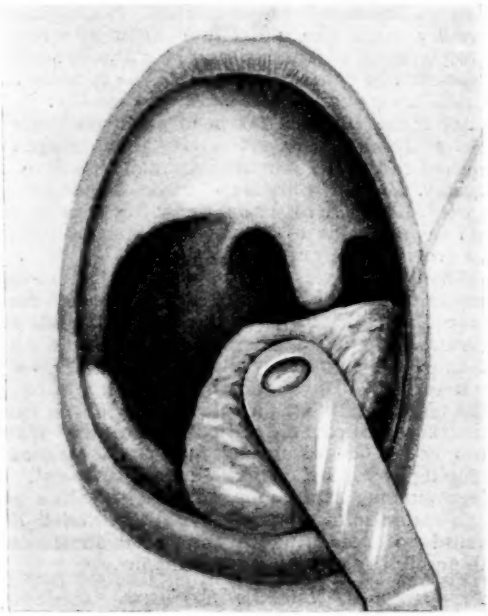

FIG 5.—Result of the operation about a month after diathermy.

the larynx has been attacked inhalations of friar's balsam are comforting. The patient should sit up in bed or in a chair as soon as possible. When the sloughs are quite loose, but not until then, they may be removed. Hæmorrhage may be troublesome, and it must be dealt with on the same principles as those which apply after cutting operations. All stimulating treatment should be avoided —e.g., no saline infusions are to be given unless the patient is suffering from profound loss of

blood, and only when the bleeding has been controlled. It is best to prop the patient up when he can stand this position and quiet him by the hypodermic administration of morphia. Local styptics, such as adrenalin, tannic and gallic acid in a thick paste may be tried, but pressure will probably best meet the emergency. If the hæmorrhage is sudden and severe the patient may be very much alarmed and his struggles and his congested state may put all temporising methods out of court. In a case of this sort it may be necessary to perform laryngotomy—a procedure which only takes a few seconds—and plug the pharynx tightly. The external carotid may sometimes require to be tied. Preliminary ligature of the carotid has been referred to, and it will commend itself especially in patients who have to be left in a nursing home where surgical aid may not be promptly forthcoming.

Pain is generally present, but it is not a marked feature during convalescence; it is treated on ordinary principles.

Some swelling of the cervical glands is common after the operation, but it soon subsides. As a rule the temperature does not rise considerably, but I once saw it reach 104° without any serious complications supervening. As in all extensive operations involving the upper air-passages, septic pneumonia may develop, but it is wonderfully rare; when the region of the larynx has been dealt with complications in the chest are, of course, more likely to supervene. Weeks after the operation bony sequestra may separate; their presence may give rise to granulations which are rather liable to be mistaken for new growth.

Troublesome superficial burns have occurred on the abdominal wall from insufficient protection of the large electrode, which is generally applied over this region. An ample thickness of lint, well moistened with saline, should be placed between the plate of the electrode and the abdominal wall.

Other complications, which have already been alluded to, are acute laryngeal obstruction, sloughing of the laryngeal framework, and abscess in the neck.

Results.

Treatment of malignant disease by diathermy is of such recent development that it is too early to speak with any certainty of the results. My early cases, owing to lack of boldness in the use of the instrument, often required repeated applications. They were not nearly so successful as more recent cases have been. On the other hand, encouraged by the good results in cases where the disease was limited, I have been induced to apply the method in advanced cases where nothing could really be expected from treatment of any kind. There are certainly a large number of patients coming up to hospital where the disease has spread too far to make any sort of operation worth carrying out. The results, in selected cases, are extraordinarily good. If patients could only be seen early enough a large number of cures would probably be effected. It has been too much the habit, and it is still too much the habit, of surgeons to regard this method as a palliative measure only, and as one to be reserved for "inoperable" cases. It is the best method to adopt in all cases, and not only in cases on the borderland of being inoperable by the knife. No excision of a carcinomatous growth in the tongue, mouth, or pharynx, however small that growth may be, should be carried out with the knife if diathermy is available.

The results will depend largely on early diagnosis, and expert advice should be called in whenever there is a suspicion that malignant disease may be present.

No time should be lost in Wassermann examinations—a microscopic examination of the suspected tissues will generally settle the diagnosis. Very serious consequences may follow on a positive Wassermann report in a case of epithelioma, and frequently the blood is positive; the patient may be dosed with anti-syphilitic remedies while the tumour grows apace.

OBSERVATIONS ON THE SPORULATION OF SYPHILIS ORGANISM AS SEEN ON THE DARK GROUND.

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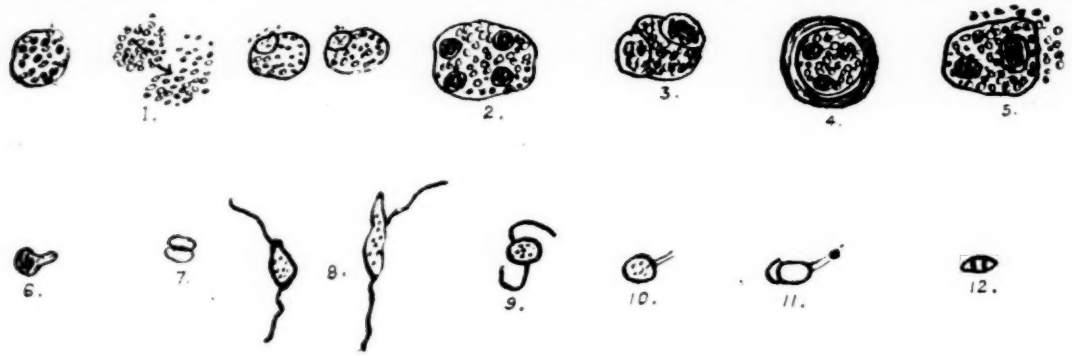
DURING many months of dark-ground examinations of scrapings from syphilitic sores the occurrence of highly refractile coccal bodies in large numbers, either singly or in pairs, could not fail to be noticed. So frequently were they seen that some sort of relationship to the disease was suspected, but prolonged examination of the slides was not possible, and the origin of these bodies was not observed. Even the *Spirochæta pallida*, when found, could not be watched long enough to note any interesting process in which it might play a part.

The greater leisure of post-armistice times has provided more opportunity for prolonged study. Twice within the first week of resuming dark-ground work what was taken to be phagocytosis of a spirochæte by a leucocyte was observed, and on the second occasion demonstrated to a colleague. Subsequent observations, coupled with statements made by McDonagh that phagocytosis never takes place with *Spirochæta pallida*, have suggested another interpretation of the phenomenon thus twice observed.

On June 30th last our attention was called to a "leucocyte" which had burst and was pouring forth hundreds of the small refractile bodies so often seen in previous smears (Fig. 1). The observation was confirmed and the appearance compared with Phase 36 of the life-cycle of the leucocytozoon syphilidis represented by McDonagh in Plate II. of his book "Biology and Treatment of Venereal Disease." On a following occasion sporulation was observed with the dehiscent opening in front view instead of in profile as on the former occasion. Drawings were made of the appearances seen on the occasion (Figs. 2 to 5). The lights and shades are made as seen in the dark ground, so that the dark spots in Figs. 2, 3, 4, and 5 are the points of dehiscence, as is confirmed by the fact that the flow of spores was always from these points. Fig. 6 was darker as seen in the dark ground than the brilliantly illuminated spores, but not so dark as the points of dehiscence. It seems to correspond to a developing free sporoblast (No. 38 in McDonagh's life-cycle).

In view of the obvious sporulation thus personally observed in the dark field, and McDonagh's description of a life-cycle accomplished inside a leucocyte or endothelial cell, the phenomenon

Showing Highly Refractile Bodies seen in Scrapings from Syphilitic Sores under Dark-ground Illumination.



observed by us and once seen and demonstrated by Levaditi (who described it as phagocytosis) may actually have been the act of impregnation by the male gamete (the *Spirochæta pallida*) of the female gamete inside the leucocyte.

One other phenomenon has been observed. Twice a flagellate and actively swimming organism (drawn by Captain Goss, Fig. 8) has been seen. On the second occasion Captain Goss fortunately watched it for some considerable time till movement ceased and it assumed the appearance seen in Figs. 9, 10, and 11, finally bursting and pouring out numerous diplococcal bodies (Fig. 7). A certain number of short, fine, few-spiralled spirochætes were also seen, but they were not observed to arise from any pre-existing body, as were the single and double coccal-formed bodies. They were like miniature *Spirochætæ balanitidis*, and might correspond to No. 25 in McDonagh's cycle.

Forms (Fig. 12) which seem identical with No. 25 in McDonagh's cycle have also frequently been observed, but their origin and evolution have never yet been seen.

All these phenomena were noted only in slides taken from sores that were clinically syphilitic, and from no others. It seems, therefore, that a number of phases of the life-cycle can be seen in the dark ground, but further observations with controls seem necessary. The close connexion between the lymphocytes and the syphilis organism indicated by McDonagh's work and the above observations suggested further study on the differential leucocyte count in syphilis. This work is now being done, and further observations on the subject may be published later.

This paper has been read and observations confirmed by Lieutenant-Colonel E. G. Ffrench, R.A.M.C., officer commanding No. 56 General Hospital, Etaples.

THE FREQUENCY OF RIGHT INGUINAL HERNIA AFTER APPENDICECTOMY BY THE "GRIDIRON" INCISION.

BY G. H. C. ST. GEORGE GRIFFITHS, M.R.C.S., L.R.C.P. LOND.,

TEMPORARY SURGEON LIEUTENANT, R.N., ROYAL NAVAL HOSPITAL, HASLAR; LATE SENIOR HOUSE SURGEON AND RADIOGRAPHER TO THE TAUNTON AND SOMERSET HOSPITAL.

CAREFUL investigations into this extremely interesting complication or end-result have been made at the Royal Naval Hospital, Haslar, for a period of ten months. The cases described below are a few among the 100 odd cases of inguinal hernia that have passed through my hands, directly or indirectly, in the senior surgical section at Haslar. The condition first came to my notice last June, when two right inguinal herniæ were lying in the wards of the senior surgical section, both having been operated on previously for appendicitis by the "gridiron" or muscle-splitting method. Within three weeks yet another case made its appearance in the wards. My curiosity was then aroused to a possible new cause of hernial formation, and indirectly a complication or end-result to appendicectomy.

Another question requiring solution was whether these right inguinal herniæ only followed the gridiron incision, or whether Battle's method also shared in this unique mode of hernia formation. So far I have collected 11 cases of inguinal herniæ following appendicectomy. Of these, 10 were on the right side and the eleventh appeared as a left inguinal hernia. The date of appearance of these herniæ varied from a few months to three and a half years after appendectomy was performed. In one case the hernia followed 12 years after, but this case had also been complicated by an operation for ventral hernia in the old scar. This late occurrence may account for this end-result or complication having passed unnoticed so long. In 10 of the cases the gridiron incision was used, none of the incisions being near the outer border of the right rectus. In the eleventh case a Battle's scar was present, the hernia having appeared 18 months after operation. The length of the scars varied from 2½ inches to a maximum of six inches. The situation, too, differed somewhat in position, from immediately above Poupart's ligament and the right iliac crest to near the mid-point between the right anterior superior spine and the umbilicus.

As regards the size of the herniæ, they were mostly small, probably owing to the service routine of reporting early a condition such as a rupture. In only two cases did the sac come well down into the scrotum, one of these being the case mentioned above as following appendicectomy by Battle's method. In all cases operated on the sac was found to be of the oblique variety, varying in thickness, but mostly delicate and thin—this fact suggesting recent formation.

The greater majority of the original operations for appendicitis had not required draining for pus, and had been stitched up in the ordinary way.

Obviously some sort of explanation of the exciting cause of this unlooked for end-result is necessary. It will be noticed that 10 out of the 11 cases appeared on the right side.

No one can possibly state with accuracy whether there was a predisposition to a hernial formation in each of these recorded herniæ. Such a predisposition may account for the one appearing in the left inguinal canal, and also the hernia following Battle's method; this happened to possess a large sac and was of the infantile type. Anatomically there is no explanation for the formation of these two herniæ. This leaves nine right inguinal herniæ following appendicectomy by the gridiron incision to be accounted for.

Some authorities may regard the preponderance of 10 to 1 as not out of proportion to the usual preponderance of right inguinal herniæ to the left. In a series of 76 consecutive cases of inguinal herniæ, I found 37 on the right side, 31 on the left; 5 were double, and in 3 the side was not recorded. These figures do not support the theory that the 10 to 1 preponderance is explained merely by the predisposition of the right inguinal canal to hernial formation. The explanation must be sought for in some fault in the technique in making or closing the gridiron incision.

I suggest that this may occur in two ways, either by avulsion or division of the fine muscular nerve twigs to the lower portions of the internal oblique and transversalis muscles during the opening of the peritoneal cavity, and leading to a partial or complete atrophy of the muscle-fibres in the region of the internal abdominal ring; or, on the other hand, by compression of the same nerves by the encircling catgut sutures in sewing up the incisions in the transversalis and internal oblique muscles, in repairing the abdomen after appendicectomy. From the fact that 11 cases have appeared in a little over a hundred consecutive cases of inguinal hernia, a new plea for Battle's method arises, to avoid the possible occurrence of this annoying end-result to appendicectomy by the muscle-splitting incision.

A NOTE ON THE ENVIRONMENTAL FACTOR IN THE CAUSATION OF BERI-BERI.

BY K. SIMPSON, M.B., CH.B. EDIN., D.P.H. OXON.,
LATE MEDICAL OFFICER, COLONIAL SERVICE.

THE results of published experiments by E. C. Bulley[1] throw some valuable light on the causation of xerophthalmia and other eye lesions occurring during a diet deficient in the fat-soluble growth factor. While such lesions were prone to occur in rats, they could be prevented by careful attention to keeping the animals in a clean and healthy condition, and promptly treating any slight soreness of the eyes with boric lotion. While the prime cause of xerophthalmia was a deficient accessory food factor, the exciting cause was the development of the *B. xerosis* in tissues of lowered vitality and resistance. Such findings are in accordance with those of McCarrison,[2] who found that pigeons fed continuously on a diet of polished rice, in addition to the development of polyneuritis avium, became susceptible to various septicæmic and tuberculous infections, demonstrable on post-mortem examination. In conclusions drawn from his earlier observations, McCarrison points out that similarly in the causation of beri-beri various parasitic and infective processes may play an important rôle in the onset of the disease in those so predisposed through dietary defects. Such facts seem to throw additional light upon observations of the writer while in charge of a beri-beri hospital in Singapore, 1914–15. These may be here briefly mentioned, with, however, the preliminary observation that cases of polyneuritis in which definite infective processes were operative as the causative factor, such as malaria, dysentery, or syphilis, presented clinical differences from the polyneuritis of beri-beri, and, further, that when chronic the former showed little improvement in hospital from the exhibition of a diet of unpolished or parboiled rice, in strong contrast with those of true beri-beri.

Of different nationalities admitted to hospital, Chinese were in point of number six times that of all others—Japanese, Javanese, Malays, and Indians. While the disease in its true form was of common occurrence among recent immigrant Chinese, it was practically unknown among the Straits-born settlers in the colony. While rare in the Malay the disease was met with only in the case of one who had recently come to settle in Singapore from some distant part of the colony.

In its incidence among the sexes beri-beri occurred between five and seven times as frequently in the male as in the female.

The disease was most prevalent among the coolie class, those employed on rubber estates being especially prone to infection. Certain areas in Johore were constantly found to furnish the largest number of admissions to hospital. During the same period, of a considerable number of saw-mill coolies admitted from a wide area no less than three-quarters were found to have come from a certain saw-mill in Singapore. Of those employed at different trades tailors alone accounted for more than half.

Inquiries into the former dietaries of a considerable number of beri-beri patients, particularly as to the consumption of polished rice, led to no outstanding differences between them and that of Straits Chinese, who did not appear to suffer from the disease in its true form. Speaking generally, in a few instances only did polished rice serve as the exclusive article of diet. In the majority of cases, though supplemented by the addition of fresh vegetables, vegetable curries, &c., and a native preparation of germinating grain frequently partaken of, the dietary appeared to consist almost entirely of carbohydrate foodstuffs. A minimum amount of protein and fat appeared to be gained occasionally from salt fish or pork fat.

Conclusions.

Shortly, the balance of evidence seemed to indicate that certain endemic areas existed where, in those prone to beri-beri by reason of dietetic deficiencies, the disease was in the majority of cases probably precipitated, the exciting causes being presumably overcrowding and unhygienic surroundings. Such conditions at the time of writing were not absent from the coolie lines of certain estates that harboured the disease, where the coolies employed were to a great extent made up of imported Chinese, and to a lesser extent of Japanese, who also occasionally contracted the disease.

[1] Biochemical Journal, July, 1919.
[2] Brit. Med. Jour., February and July, 1919.

Recent facts in the ætiology of rickets, a "deficiency disease" akin to beri-beri, seem to support the view that similarly something more than a mere dietary absence of the accessory growth factor is necessary for its production, as evinced by its occasional occurrence on the one hand in breast-fed infants and, on the other, its absence, in countless instances, in infants reared exclusively on some of the preparations of dried milk prepared in such a way that the milk vitamines are presumably destroyed.

The recent experiments of Noël Paton[3] lend additional support to this view in that rachitic changes were produced in puppies reared under adverse sanitary conditions, though supplied with an abundance of fats and fresh butter, whilst similar puppies reared in the open but fed upon a more restricted diet remained free from signs of the disease.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF CARCINOMA OF THE TRANSVERSE COLON AND INTUSSUSCEPTION.

BY IVOR BACK, M.A., M.B. CANTAB., F.R.C.S. ENG.,
SURGEON TO ST. GEORGE'S HOSPITAL, SURGEON AND PROCTOLOGIST TO THE GROSVENOR HOSPITAL FOR WOMEN;
AND
A. TUDOR EDWARDS, M.C. CANTAB., F.R.C.S. ENG.,
RESIDENT ASSISTANT SURGEON, ST. GEORGE'S HOSPITAL.

THE following case appears to us to be worthy of record as presenting some unusual features:—

A. M., a man 45 years of age, was admitted to St. George's Hospital on March 27th, 1919, with the following history: Between November, 1918, and February, 1919, he had suffered from a series of attacks of abdominal pain accompanied by vomiting of a bilious type and diarrhœa. Each attack lasted about three days, and the motions consisted chiefly of mucus streaked with blood. These attacks passed off under medical treatment consisting of rest in bed and light diet. He had spent two and a half years in France and had suffered from several attacks of diarrhœa, but they were never severe enough for him to report sick. Otherwise there was nothing of importance in the previous history.

State on admission.—The patient was a fairly well-nourished man of slight build. He was collapsed; temperature 95·8° F., pulse 120. The tongue was furred and dry. The abdomen was distended, and there appeared to be a large mass occupying the left lumbar and iliac regions. Visible peristalsis was present in the upper abdomen. The mass was tender on palpation and dull on percussion. Rectal examination disclosed a mass in the lumen of the bowel.

Operation by Mr. BACK.—The abdomen was opened by a vertical paramedian incision on the left side. A large typical sausage-shaped tumour was disclosed extending from the pelvis to the left subdiaphragmatic zone, dark red in colour, and with the outer peritoneal coat on the point of bursting. The cæcum on the proximal side was distended. Reduction was effected in the usual manner, but, in spite of careful handling, the peritoneal coat gave way at one or two points, requiring subsequent suture. No sign of a causative agent could be found and the abdomen was closed in layers. Apart from some incontinence of fæces on the following day recovery was uninterrupted.

[3] Brit. Med. Jour., December, 1918.

Nothing further was heard from the patient until August, when he again presented himself with what he considered was a recurrence of the old trouble. He then gave this history:—

From the time he left hospital until the previous day he had felt quite well. He was then seized with acute abdominal pain and vomited. The pain came on in definite spasms with intervals. The bowels had acted several times, but the motions consisted chiefly of mucus and some blood.

State on second admission.—The patient appeared in fairly good condition; temperature 98° F., pulse 80. There was some tenderness in the epigastric region, accompanied by slight rigidity. No swelling could be seen or felt. There was some visible peristalsis in the right side of the abdomen. The remainder of the abdomen appeared normal. In view of the preceding history it was thought that the intussusception had recurred and exploration advised.

Operation by Mr. EDWARDS (in the absence of Mr. Back).—Paramedian incision on the right side of the abdomen. There was distension of the cæcum and ascending colon accompanied by some hypertrophy of the musculature of the bowel wall. A mass was discovered in the middle of the transverse colon. This was found to be slightly movable in the lumen of the colon, but its base infiltrated the bowel wall, and there was enlargement of one of the paracolic glands in the transverse mesocolon. About five inches of the transverse colon, including the involved area in the transverse mesocolon, was resected and end-to-end anastomosis performed. There was no enlargement of the lymphatic glands of the intermediate or main group. The abdomen was sutured in layers without drainage. Post-operative recovery was uninterrupted, the patient leaving hospital on the twenty-first day. The pathological report showed the tumour to be a colloid carcinoma.

The patient was examined on Oct. 21st, when he declared himself in good health. He had regained his normal weight, and the bowels were acting regularly.

Comments.

Tumours of the intestine are known to be a cause of intussusception in adults, but they are usually of the innocent and pedunculated type. Weiss records 16 cases, in 2 of which the cause was a papilloma of the rectum, giving rise to intussusception of the colon. Wagner records a case in which the apex was formed by a pedunculated fibroma. Hochenegg has expressed the opinion that carcinoma will only cause invagination when it is polypoid or is situated at the ileocæcal valve. The interesting points about this case are (1) the absence of any sign of new growth at the time of the first operation, and (2) the favourable position of the growth for excision. Malignant disease occurring in the transverse colon is not common. The occurrence of the intussusception before any obvious projection of the growth into the lumen of the bowel supports the view, put forward by Treves, that intussusception is caused by the growth exciting violent peristalsis at its base, and that it is not due to the tumour preceding the intussuscipiens and drawing it along.

It is common knowledge that in intussception in children a definite provoking cause is rarely found at operation, and it is most likely that irregular peristalsis consequent on conditions such as diarrhœa starts the process. During the war, when routine examinations of the whole intestinal tract were carried out for abdominal wounds, a number of cases showed single or multiple small invaginations in the small intestine. These were unaccompanied by engorgement of the gut and were easily reduced, the probable cause again being irregular peristalsis set up at the time of the injury.

In our case the growth was probably already present in the mucous membrane at the time of the first operation, but was obscured by the œdema and blood extravasation which had infiltrated the bowel wall.

AN UNUSUAL FORM OF VENTRAL HERNIA.

BY FRANK L. APPERLY, M.A., M.B., B.CH. OXON., M.R.C.S.,

RESIDENT MEDICAL OFFICER, GREAT NORTHERN CENTRAL HOSPITAL.

THE following is a description of an unusual form of ventral hernia that came under my care some months ago:—

Mrs. E. B., aged 61, was admitted to the Great Northern Central Hospital on the night of April 12th, 1919, complaining of vomiting, pain, and the protrusion of a "piece of intestine" from the site of an artificial anus made four months previously at another hospital. This was at the umbilicus, and had worked well during that time. Examination showed a condition of acute obstruction, and what appeared to be a loop of bowel about 10 inches long protruding through an opening in the belly wall, just as if a loop had been forced through a stab wound. The constriction was so tight that its edges could not be defined, and I was at a loss to account for the condition, except on the hypothesis that the junction between bowel and belly wall had broken away in part, leaving a rent, through which a loop of intestine had been forced.

As the condition was obviously one for immediate operation, I opened the abdomen in the mid-line below the protruding bowel and extended the incision upwards to relieve the constriction and ascertain the exact condition. This condition was interesting. It showed that the previous operation was a colostomy, made about 6 inches above the cæcum. Part of the wall of the colon had been forced through the colostomy opening, and by stretching and turning inside out, formed the sac of a hernia, the content of which was a loop of gangrenous small intestine 10 inches long. What I had taken for the peritoneal coat of the "protruded loop" was really mucous membrane of colon, but so stretched and shining as to be indistinguishable from peritoneum. The gangrenous contents of the sac were readily removed when relieved from constriction and were resected. A lateral anastomosis was made, the colostomy returned to its normal position, and a tube placed in the pelvis.

The previous history of the patient was obtained later from the surgeon who had performed her former operation. He states:—

"She was seen by me on Nov. 25th, 1918, with symptoms of acute obstruction of three or four days' standing. Three years before she had had an operation for radical cure of an umbilical hernia. An umbilical hernia was present on this occasion, and I cut down upon it in the central line. A piece of distended bowel presented, but it was firmly adherent all round, and I could not demonstrate the peritoneal cavity at all. Her condition being bad, I tied in a Paul's tube, evidently into large intestine. Later, as her appearance was a bit suggestive of malignant disease, but she was otherwise doing very well, I determined to 'leave well alone.'"

The patient did very well for nine or ten days. Then her pulse began to get weaker and rapidly failed, and on the twelfth day she died.

Post-mortem examination showed a clean anastomosis and abdominal cavity. The large intestine was normal. There were three calcified fibroids in the uterus, one as large as a man's fist. The heart was flabby. Nothing else abnormal was found.

I think this case shows well the need for avoiding the mid-line for colostomy; for whereas in other situations abdominal muscular action tends to close such openings, in the mid-line the reverse must happen, and this appears to have been such a case.

A PSEUDO-PARATYPHOID CARRIER.

BY R. C. WATTS, M.D., D.P.H., D.T.M.,

FORMERLY GARRETT FELLOW IN BACTERIOLOGY, UNIVERSITY OF LIVERPOOL.

PARATYPHOID infections came into great prominence during the war—especially the question of carriers, as it is a well-known fact that the organisms of this group, being more long-lived than typhoid, persist longer outside the body. From some cases organisms have been isolated resembling the members of the paratyphoid group in so far as the biochemical reactions are concerned, but altogether atypical in their specific serum reactions. The latter is a very important matter, as the ultimate diagnosis is based upon serological test, and the only chance of diagnosing rightly in such cases is by isolation of bacilli from excreta or blood (patients' serum giving no reaction with standard stock cultures of typhoid-paratyphoid A or B). Since some time back four cases of pseudo-paratyphoid were reported from Cairo district,[1] the following case of a carrier coming from the same area is interesting:—

The patient, an Indian, was admitted to hospital suffering from facial paralysis. He was well nourished and seemed all right, except for a tendency to obesity. Four months before admission he had pyrexia, which was diagnosed as (?) malaria. He had traces of albumin in his urine, which was sent to the laboratory for examination of casts. From the urine a motile Gram-negative bacillus was isolated, which gave the sugar reactions of paratyphoid group, but failed to be agglutinated by any of the stock sera; the patient's serum, however, showed a strong agglutination up to 1 in 400 dilution, and a weak one up to 1 in 900 dilution. The serum failed to agglutinate any of the stock cultures of paratyphoid A, B, or typhoid, even in dilution of 1 in 10.

My personal belief is that the pyrexia diagnosed as (?) malaria was an infection with pseudo-paratyphoid, and that since then the patient has become a chronic carrier. The patient's serum of the above did agglutinate the pseudo-paratyphoid from the carrier described by Captain Paton up to a dilution of 1 in 80, and gave similar sugar reactions.

Twice before I have come across similar organisms in urine; one of the cases was suffering from liver abscess, and the organism was obtained from the liver pus.[2] That such organisms are pathogenic can be easily understood from the cases noted by several French observers[3] and others in the late epidemic in Cairo Prisoners of War Hospital recorded by Captain Paton.

I am indebted to Colonel Jennings, O.C., No. 45 Indian General Hospital, for permission to publish the above case, and to Captain Paton for giving me a subculture of the organism isolated by him from a carrier at No. 2 Prisoners of War Hospital, Cairo.

Pathological Laboratory, No. 45 Indian General Hospital, E.E.F.

[1] THE LANCET, 1919, i., 1072.
[2] Brit. Med. Jour., March 29th, 1919, p. 378.
[3] Typhoid and Paratyphoid Fevers, by Vincent and Maratet, p. 117.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill will shortly issue a new book by Dr. A. T. Schofield under the title of "Modern Spiritism: its Science and Religion." The publishers' profits will be given to the British and Foreign Bible Society.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF MEDICINE.

ARTHRITIS IN DYSENTERY.

A MEETING of this section of the Royal Society of Medicine was held on Nov. 25th, Dr. A. F. VOELCKER, the President, being in the chair.

Dr. GEORGE GRAHAM read a paper on Arthritis in Dysentery: Its Causation, Prognosis, and Treatment. After a reference to the previous records of the condition, he said that during the summer and autumn of 1916, when the dysentery cases which came from Salonika were almost entirely of the bacillary type, a number of cases of arthritis were seen in Malta. The paper was based on notes taken of 33 of these. With one exception all the patients contracted dysentery elsewhere, and the joints were usually already affected before the patients arrived in Malta. The early stages were in consequence not seen there, though the progress of the disease and its spread from joint to joint could be watched. The usual day of onset lay between the sixth and twenty-third after the first symptoms of dysentery. The first symptom was severe pain which preceded the swelling of the joint by some hours. The effusion into the joint took place very quickly, and was usually large. The severe pain went long before the joint swelling subsided. There was no reddening of the skin, and the joint was not hot even in the most acute cases. In some many joints were attacked on the same day, but in most the joints were attacked at intervals. The commonest joint to be affected was the knee, and the ankles and elbows came next in frequency. The small joints of the wrists and hands were occasionally affected. There was no relationship between the time of onset of the arthritis and the severity of the dysentery. In severe cases there was a considerable rise in temperature, which might oscillate for many weeks. In mild cases the temperature was little, if at all, raised. Seven patients were quite well within four weeks, 20 were ill for much longer periods. When the joints subsided quickly there was seldom any after-trouble, but when this process was a slow one with relapses there was often stiffness. Some of the patients developed eye symptoms, which were of two kinds: (1) Injection of the conjunctiva, without purulent discharge, but accompanied by pain and lacrymation; (2) cyclitis or irido-cyclitis. The latter occurred in 7 cases. The conjunctivitis always cleared up quickly with washes such as argyrol (2 per cent.). When the irido-cyclitis developed under observation it yielded readily to treatment by atropine, but in 3 cases in which it had become well developed recovery was very slow, and in 1 case iridectomy was subsequently needed for synechiæ. The arthritis was distinct from that produced by serum; the evidence suggested that early treatment of dysentery by serum prevented the occurrence of arthritis. The mode of onset resembled that of rheumatic fever, but the absence of flushing of the skin and of great heat in the joint was against this diagnosis; moreover, sodium salicylate gave no relief. Aspirin relieved the pain, but the joint swelling did not subside. The chronicity of the arthritis and the absence of endocarditis was also unlike rheumatic fever. The appearance resembled gonococcal arthritis, a resemblance enhanced by the eye changes, but fasciæ were not affected and there was no evidence of gonorrhœa. "Rheumatoid arthritis" was simulated closely by dysenteric arthritis in its later stages. Treatment was most unsatisfactory. Aspirin seemed to relieve the pain, and Scott's dressing was useful locally. Application of a splint was advisable if the pain was severe or if the limb tended to assume a bad position. Massage was of great use in later stages. The joints were not relieved by serum administered in two cases. His conclusions were: 1. An affection of one or more joints takes place as a rare complication of bacillary dysentery. 2. The joint affection is often accompanied by a severe constitutional disturbance. 3. Conjunctivitis and irido-cyclitis are secondary complications in about half the cases. 4. The disease runs a slow and chronic course, but apparently ends in complete recovery.

Discussion.

Dr. P. MANSON-BAHR said that arthritis occurred in some epidemics and not in others. In Fiji in one epidemic it occurred in 47 per cent., but again in 1910, of 350 cases of dysentery none developed arthritis. In 1916 he had seen cases from Gallipoli, and 9 out of 27 in one series had arthritis, whilst in another hospital of 150 cases none had arthritis. He had not seen arthritis develop after the serum of the Lister Institute had been used. The wasting of muscles was often marked and caused a resemblance to rheumatoid arthritis, the joint changes being also more periarticular than intra-articular. He had punctured the joints in three cases, but the fluid was always sterile. He had seen the conjunctivitis and the iritis in two cases. Parotitis was also seen at the time, but it was questionable if it was related. In the cases of arthritis Shiga's bacillus was the infecting agent in all. The arthritis came on sometimes with alarming rapidity and might affect almost any joint, including the hip and temporo-maxillary joints.

Dr. C. J. MARTIN said that he had not encountered arthritis at Lemnos in many hundreds of cases of dysentery, but afterwards met with it in Egypt and in France. This suggested that there was some local difference to account for the peculiarity, perhaps either in the serum or in the organism. The majority were in cases of Shiga infection, but in three the infection was by the Flexner group. The joints were sterile, but this was not unexpected, especially in view of the high content of antibodies in the joint fluids.

Sir ARCHIBALD GARROD emphasised the occurrence of the syndrome—arthritis and eye changes. The recognition of the irido-cyclitis was an acquisition from the war. The similarity to gonococcal arthritis was very close. Aspirin relieved the joint pain.

Dr. W. H. WILLCOX spoke of the occurrence of the arthritis in Mesopotamia. Though the infection in most cases was bacillary, especially by Shiga's bacillus, he had seen it in amœbic cases. In these it occurred late, and was possibly a secondary infection. He preferred to call the joint condition caused by serum synovitis rather than arthritis, but fluid actually occurred in the joint. Eye symptoms were met with associated with the arthritis. In some cases he had seen with the arthritis a fibrositis. He thought that serum was important in the prevention of arthritis. With great patience and rest improvement occurred in the joints, and they sometimes cleared up altogether. In Indians he had been surprised to find remarkably good results by the administration of salol.

Dr. PHILIP HAMILL had had successful results by treating the arthritis by serum after attempts by other methods had failed. More than one injection had been found necessary.

SECTION OF ANÆSTHETICS.

A MEETING of this section of the Royal Society of Medicine was held on Nov. 7th, Dr. LL. POWELL, the President, being in the chair.

Dr. F. E. SHIPWAY read a paper on

Intratracheal Insufflation of Ether in Operations which Involve Bleeding into the Air-passages.

After dealing briefly with the history of the method the author showed how cases due to war injury had greatly extended its use. His own experience depended on 930 cases, of which 407 were operations on face, mouth, and pharynx. These he arranged in three groups: (1) gunshot wounds of face, mouth, and pharynx (142 cases); (2) non-malignant disease of mouth and pharynx (89 cases); (3) malignant disease (176 cases).

In Group (1) there was uniformity of age and general physical condition. The average length of anæsthesia was greater than in the other groups. Many of the operations lasted over 1½ hours, 20 lasted 2 or more

hours, the longest being 3 hours and 7 minutes. There were six patients under 12 years of age. One case was that of a fisherman weighing 18 st., subject to urgent dyspnœa through nasal obstruction from masses of polypi. The palate had to be held up by the surgeon's finger, and the tongue held out in order to secure an airway during induction of anæsthesia. Then the epiglottis was cocainised and the catheter passed.

Two patients in Group (3) were 80 years of age, the youngest was a girl under 12 who underwent removal of the upper jaw. In two of these cases tracheotomy was performed and the catheter placed in the tube. Dr. Shipway described the difficulties that may be met with in passing the catheter in patients of Group (1), difficulties due to scarring and deformities of mouth, jaws, and tongue, and showed how such difficulty can often be overcome by using the upright or semi-recumbent posture and by flexing the head. He approved of cocainisation of the pharynx and epiglottis for all administrators who have not yet obtained skill in passing the catheter. The advisability of giving preliminary narcotics was discussed. In the young Dr. Shipway disapproved of it. In adults generally he prefers morphine 1/6 gr. with atropine, but never scopolamine. The morphine reduces struggling and thus saves an expenditure of energy which might play a leading part in collapse or failure to recover. Moreover, with the use of morphine the anæsthetist can maintain by intratracheal insufflation an uniformly light degree of narcosis with perfect quiet on the patient's part. The anæsthetic can be blown out before the end of the operation and the patient returned to bed with full control of his reflexes. The danger of pushing infective material into the lungs or of implanting cancer cells low down in the air-passages by the passing of the catheter has not been illustrated in a single case of the series. The claim that intratracheal ether abolishes the risk of aspiration or septic pneumonia has been made good by these cases, for it occurred in none. Dr. Shipway alluded to the practice of interrupting the air stream at intervals, and stated that with a moderate pressure, such as exists when the safety-valve blows off at 20–25 mm. Hg, it is rarely necessary. Such interruptions, accompanied by compression of the chest, have, however, been found necessary when the apparatus was used for performance of artificial respiration. There were six cases of acute bronchitis, mostly among the emphysematous and chronic bronchitic. Shock is reduced to a minimum; by this method of anæsthetising all needs of respiration are met and intermittent asphyxia eliminated. Dr. Shipway compared the merits of insufflation with those of delivering an anæsthetic through a laryngotomy or tracheotomy opening, and showed how in many of the war injury cases the latter method was impossible or undesirable. He has abandoned insufflation for exophthalmic goitre, except in the presence of obstruction.

Discussion.

A discussion followed in which Mr. F. F. BURGHARD expressed his high opinion of the method, and the PRESIDENT, Dr. R. LOW, Mr. F. S. ROOD, Dr. C. H. MOTT, Dr. W. J. MCCARDIE, Mr. F. W. LONGHURST, and Mr. HUGH PHILLIPS took part. Afterwards Mr. GEOFFREY MARSHALL, Dr. MCCARDIE, and Dr. SHIPWAY showed nitrous-oxide-ether apparatus, which was commented on by the PRESIDENT, Dr. H. E. G. BOYLE, and Mr. PHILLIPS.

SECTION OF OTOLOGY.

A MEETING of this section of the Royal Society of Medicine was held on Nov. 21st, under the presidency of Mr. HERBERT TILLEY, who delivered an address entitled, "A Plea for the Better Education of the Medical Student in Oto-Rhino-Laryngology." The address appears in another column.

EXHIBITION OF CASES AND SPECIMENS.

Malformation of the Human Stapes.

Professor S. G. SHATTOCK, Mr. S. R. TATTERSALL, and Mr. A. H. CHEATLE contributed a note on a very remarkable Malformation of the Human Stapes. The child, a full-term, stillborn male, had a cleft palate and bilateral hare-lip, and Professor Shattock had never seen any record of a similar specimen.—Mr. ALBERT GRAY said it might be due to pre-natal injury. If it were a developmental error it was also difficult to explain, because so little was known about the evolution of the oval window and the stapes.—Mr. W. STUART-LOW regarded it as a case of reversion to animal type.

Prolonged Hysterical Deaf-mutism.

Dr. A. F. HURST and Mr. W. M. MOLLISON showed a youth aged 18, who, though he heard well when a baby, had been deaf since a few months old, probably ensuing upon a fall on the head at that age. He did not remember to have heard anything at all, except very rarely during the last few years, when perhaps he was conscious of the vibrations caused by loud noises. When seen by Dr. Hurst in May last he seemed deaf, but the vestibular reactions were normal. It was then explained to him, by means of lip-reading, that he could not hear because he had never tried to listen; and on this first occasion he was taught to listen sufficiently to hear his name pronounced—the first word he remembered to have ever heard. Each subsequent word had to be taught him separately; as he found it very difficult to listen for more than a few moments at a time his progress was slow. The conclusion arrived at was that the deafness must have been temporary, but as it came on at a period when the patient was just learning to listen, the development of the faculty was interrupted; hence he never again learned to listen. The deafness must therefore be regarded as hysterical, though of organic origin. No disease of either middle or internal ear could be detected, yet before treatment the deafness to both ear and bone conduction was absolutely complete, and the auditory motor reflex of the pupil was also absent. This reflex is now normal.

Dr. DAN MCKENZIE remarked that recently the test for functional deafness by faradism was criticised, justly he thought. There were cases of severe nerve deafness in which the results of caloric tests were normal and remained so for a considerable time, possibly always; yet there was no reason to suppose that the deafness was anything but organic. He had reported a case in which it was due to a poison—probably that of mumps—and the caloric test was positive. In this present case probably Dr. Hurst was encouraged to persevere because the caloric test was normal. He believed that even in organically deaf people there was a definite functional element due to the withdrawal of the sense of hearing, as a result of which the nerve centres concerned with hearing became inert, so that they ceased to listen.

The PRESIDENT, Dr. L. H. PEGLER, Mr. T. MARK HOVELL, Dr. J. DUNDAS GRANT, Dr. W. H. KELSON, and Mr. STUART-LOW discussed the case, and Dr. HURST replied at length.

Vertigo in Conjunction with a Radical Mastoid Operation.

Mr. MOLLISON showed a man, aged 36, who attended hospital last March because of attacks of severe vertigo which had existed for four months. Eight years ago a radical mastoid operation was performed on the left side, and there was still some discharge. He also still suffered from persistent frontal headache and some tinnitus. Examination revealed an old perforation on the right, and on the left there was otorrhœa from the radical cavity, while about the oval window was a granulation. He asked whether an operation on the left labyrinth would cure the attacks of vertigo.—Dr. DAN MCKENZIE said he had a similar case, and he was in a like quandary. He feared that if he opened the labyrinth he might infect it and cause labyrinthitis.

A number of other cases of interest were also shown.

THE Sheffield Medico-Chirurgical Society, under the presidency of Professor Arthur Connell (for the sixth year in succession), issues a full and attractive programme of meetings for the winter. Amongst those who have accepted invitations to give addresses to the society may be noted Dr. A. F. Hurst on Feb. 5th, on Neuroses in War and Peace; Mr. Raymond Johnson on Malignant Disease of the Testis on March 11th; and Professor H. R. Dean, of Manchester University.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

ANTIMOSQUITO MEASURES IN PALESTINE IN 1917-18.

A MEETING of this society was held on Nov. 21st, Professor W. J. R. SIMPSON, C.M.G., the President, being in the chair.

Major E. E. AUSTEN, D.S.O., gave an account of Antimosquito Measures in Palestine during the Campaigns of 1917–18. The lecturer's remarks were prefaced by a brief description of the topographical features, physical conformation, and climatic conditions of Palestine, a country whose length and breadth are, roughly, but little more than 150 and 60 miles. The prevalence of malaria in all three forms, but particularly malignant tertian fever, among the inhabitants, was found to reach a degree of infection amounting to about 60 per cent. of the population, and therefore necessitated the most vigorous and thorough measures to check its spread among our invading forces. The difficulties attending this work were most formidable. Anything like systematic destruction of adult mosquitoes was a practical impossibility owing to the countless natural mosquito hiding-places in the shape of recesses in earth, cliffs, or among rocks, the enormous number of artificial haunts in the form of subterranean water-cisterns, rock tombs, and deep well shafts. Under existing war conditions it was not possible to deal with interiors of native dwellings. Efforts were therefore concentrated on larval destruction and the prevention of breeding undertaken on well-known lines, the simplest measures alone proving practicable, with the closest attention to detail. In Palestine the vital importance of water alike to man and beast much precluded the use of larvicides other than paraffin.

On entering Palestine in March, 1917, the Egyptian Expeditionary Force as a whole had had no experience of antimosquito work, with the exception of the 92nd Sanitary Section which, under Captain J. Inglis, O.B.E., R.A.M.C. (T.), had carried out valuable work in the autumn of 1916 at Kantara, on the Suez Canal, and remained there throughout the campaign. The Desert Column after moving across Northern Sinai reached the line of the Wadi Ghuzze to the south of Gaza in March, 1917, and it became apparent that a well-organised plan of antimosquito measures was called for on an extensive scale along many miles of front. From this point the lecturer divided his story into three periods, corresponding to the three defensive lines successively taken up by our troops—namely: (1) Wadi Ghuzze line, March 24th to Oct. 31st, 1917; (2) El-Jelil-Wilhelma-Jerusalem line, Dec. 23rd, 1917, to Feb. 22nd, 1918; (3) Arsuf-El-Ghoraniye line, March 22nd to Sept. 19th, 1918.

1. *Wadi Ghuzze Line.*

From the end of March to the end of October, 1917, the Wadi Ghuzze formed part of the front line, and was the only source of water-supply for men and animals. For a length of some eight miles water was only present in the wadi or obtainable by digging in certain portions, and the original conditions in April consisted in a string of shallow pools of varying dimensions, isolated or stagnant or connected by shallow streams flowing through shingle or sand. Both pools and streams were choked with green alga (Spirogyra) and teeming with larvæ of *Anopheles turkhudi*. The weed was found to grow with astonishing rapidity, and its presence invariably connoted anopheles breeding. The eight miles stretch of the wadi was divided into four sections for purposes of administration and mosquito control. The work, carried out under the supervision of divisional sanitary sections, included such well-known measures as oiling at intervals of five to seven days with a mixture of two-thirds heavy oil and one-third paraffin, weeding, training of pools, canalising connecting streams, and the filling in of shallow extensions. The digging of small water-holes by troops or Egyptian camel drivers caused trouble from time to time, and notices were posted at conspicuous crossings of the wadi to impress upon the troops the danger of digging these holes, as they proved fertile sources of anopheles breeding. During the month of June a portion of the wadi at Shellal was converted into a large reservoir by building a dam across the wadi bed. This resulted in the submersion of many breeding-places, and places along the bank which still persisted as such were dealt with by filling in cavities and by repeated oiling. The rapid growth of algæ necessitated frequent removal of the weed. The reservoir was also made the subject of the experimental introduction of larva-destroying fish sent alive from Egypt. The fish multiplied abundantly, but it was impossible to ascertain whether they were in any way responsible for the disappearance of mosquito larvæ. The measures adopted were subjected to frequent and minute inspection, and on the whole improvement was steady and continuous. Towards October, as the result of constant and unremitting care and labour, it became increasingly difficult to discover any mosquito larvæ, but once this close watch was relaxed breeding recommenced in a short space of time.

2. *El Jelil-Wilhelma-Jerusalem Line.*

The occupation of this line coincided with the rainy season and the winter months (of 1917–18), a period not usually associated with malignant tertian fever. At the end of December, 1917, however, a sharp local outbreak of this disease in the 21st Corps near Jaffa called attention to the conditions existing in the orange-growing area near the town. Here the wells provided for irrigation purposes were in most cases roofed over with an arch of stone, or opened into the pumping-engine room, or a roofed shed, which afforded sufficient protection from cold and the torrential downpours of rain to allow of mosquitoes not only sheltering, but breeding there during the winter months. Careful inspection at this time revealed the presence of larvæ of all ages and adult mosquitoes in the wells and well-shafts supplying the orange groves, even at a depth of over 50 feet from the surface. To a less extent this was also the case in the open storage tanks connected with the wells. It was found that the species of anopheles encountered was always the same—viz., *A. bifurcatus*, which bred freely in subterranean cisterns in Judea and Galilee, and was very ready to attack even in brilliant sunshine in the hottest hours of the day. The breeding of anopheles in the wells having been definitely established, the whole area was divided into sections and charted; periodic oiling of the wells and tanks was carried out by the sanitary sections of the divisions concerned, and, so far as could be judged from subsequent examination, the treatment adopted was entirely successful.

3. *Arsuf-El-Ghoraniye Line.*

This line, which was held until the final general advance which closed the campaign, was by far the most important of all on account of its extent (some 60 miles from west to east from the sea to the bridge-heads beyond the Jordan), the large number of troops holding it, and the highly malarious country through which it ran. From the diversity of the physical conditions of the different sectors arose a variety of mosquito breeding-places far greater in extent and number than had been previously met with. Hence the enormously increased demand for effort and labour directed to the suppression of these breeding sites. On the west, the coastal plain—a region of extensive marshes; the second largest river in Palestine (River Auja), fed by a network of springs concealed among rank vegetation. Lastly, a number of narrow wadis extending for miles, all containing water and often so choked with jungle that the water was invisible. Then came the hills of limestone rock rising to a height of over 2000 feet, and intersected by a maze of narrow rocky valleys with boulder-strewn, weed-choked streams, the breeding-places of *Anopheles palestinensis*; while in the countless hill villages the subterranean rock cisterns were the haunt of *A. bifurcatus*. Still further east came the scorching Jordan Valley, 1200 feet below the level of the Mediterranean, eight miles or more in width, and enclosing, besides other breeding-places, a particularly dangerous wadi, El Kelt, and extensive marshes or pools in the jungle on both banks of the Jordan.

The Work Described in Detail.

The lecturer then described in detail the anti-mosquito work carried out in the 21st Corps area during the spring and early summer of 1918. In the Tel Abu Zeitun marsh near Mulebbis, on the south side of the River Auja—a water-logged tract of grass and reeds 1½ miles in length and 200–500 yards in width—20 acres of reeds were cut and the entire marsh drained into the river Auja. The main drain cut was 14,000 feet in length with branch drains 11,000 feet in aggregate length. Earth, much of it in the form of semi-liquid mud, amounting to 8500 cubic yards was excavated, and up to June, 1918, 50 million gallons of water had been drained away, and work equivalent to 15,354 Egyptian Labour Corps men-days had been done. This marsh was found to be the free habitat of *A. sinensis* and *algeriensis*, and later *A. palestinensis*, but by August anopheles breeding had been stamped out. Two other marshes, measuring 700 by 200 yards and 300 by 100 yards, at Burahleil near the sea to the north of the river Auja were dealt with by cutting the reeds and pumping the water into the sea through two pipes laid for this purpose, after drainage into a large dump which had been dug. The amount of water thus disposed of was estimated to amount to 6 million gallons. Yet another marsh at Baharet Katurieh, north of El Jelil, measuring 1500 yards by 500 yards of open water, was entirely drained into the sea through an ancient tunnel 150 yards long and by a specially dug channel about a mile in length. No anopheles could be found in the marsh at the end of April, but they became abundant later on when the water collected in pools, and the bivouacs of the Sikh pioneers were invaded by large numbers of *A. maculipennis*. By July 10th the marsh was dry, and a month later no anopheles could be found in the vicinity of the Indian camp. The river Auja, for the most part deep, clear, and rapidly flowing, was in places obstructed by patches of floating weeds or débris which gave sufficient shelter for mosquito breeding. These floating obstacles were removed from the surface by means of specially constructed scoops, and the thickly overgrown banks, which likewise gave facilities for anopheles development, were eventually cleared and trimmed for a distance of well over eight miles along the river's winding course.

On the right bank of the Auja there was much swampy ground beset with springs and infested with *A. palestinensis* and probably *A. sinensis*, which called for drainage operations and oiling. On the same bank were also several wadis near Ferrekiyeh, varying in length from 200 to 1000 yards, and choked with brambles, reeds, and other vegetation. This growth was entirely removed, the watercourses canalised and in places oiled. Other wadis of considerably greater length on the left bank of the Auja had also to be cleared of dense jungle, and several thousand yards of watercourse were filled in and channelled and the banks carefully trained. The growth of vegetation was so rapid during the summer months that a gang of some 300 of the Egyptian Labour Corps had to be employed to clear and weed afresh in the month of August. In the area occupied by the 21st Corps no fewer than seven species of anopheles were encountered, viz: *A. bifurcatus, A. algeriensis, A. maculipennis, A. sinensis, A. pharœnsis, A. mauritianus, and A. palestinesis.*

Problem of the Underground Water Cistern.

The 20th Corps was entirely in the hills, and therefore having no marshes and no large river basin to contend with the amount of anti-mosquito work required was considerably less than on either flank. There were, however, many small mountain streams and wadis to be dealt with by weeding and canalising in so far as the rocky beds would allow. In addition, the underground water cisterns in the numerous hill villages presented a special problem of peculiar difficulty. The majority of the hill villages in Judæa are dependent for their water-supply upon subterranean cisterns hewn in the rock and fed by rain from the roofs or by drainage from the land. In Jerusalem their number was stated to be at least 5000 to 6000, and proportionately in the hill villages. They were found to be the breeding place of *A. bifurcatus* in over 50 per cent., and consequently formed the real crux of the problem of mosquito suppression in Judæa. In Râm Allah, a large Christian village, nine miles north of Jerusalem, there were said to be more than 100 of these cisterns. This village was selected for the purpose of checking mosquito breeding by oiling the water in the cisterns. The inhabitants raised no opposition to the operations, and no serious complaint was forthcoming as to the water being rendered undrinkable. The results of the experiments made were reported to be satisfactory, and large numbers of larvæ were effectually disposed of. As similar success attended experimental oiling of the cisterns at the Arab village of Shâfat, also in the neighbourhood of Jerusalem, orders were issued throughout the 20th Corps area for the periodical oiling of all wells and cisterns in close proximity to the troops, and this was regularly carried out. Recognition of the value of these measures is contained in the following quotation made from the official "Report on Malaria in the Egyptian Expeditionary Force during 1918": "There can be no doubt that the careful and systematic oiling of the wells and cisterns in all native villages must have saved an enormous number of cases, as there was an abundant reservoir of the malaria parasite in the inhabitants." The antimosquito work carried out in the Desert Mounted Corps area of the Jordan Valley was attended by climatic conditions infinitely more trying than elsewhere, and was second only in extent to that performed by the 21st Corps.

Canalisation and Drainage under Shell Fire.

The *Wadi-el-Mellahah* followed a southerly course from a swamp near the Jordan two miles beyond our line, which it traversed to join the Wadi-el-Auja. It included a small swampy valley filled with reeds and oozing with stagnant brackish water and literally teemed with larvæ and eggs of *A. turkhudi*. To avoid a serious rate of invaliding from malaria demanded the adoption of prompt and thorough measures. An application for a working party of 1000 men was forwarded to general headquarters on May 27th. Three days later 1000 men were at work. The progress of canalisation and drainage, and of clearing the reeds by burning was so rapid, and the work so thoroughly done, that the small valley speedily dried up, and by June 4th, when the Commander-in-Chief paid a visit of inspection, no anopheles larvæ could be found. The task of canalisation for two miles through difficult country beyond our line was carried on until exposure to enemy shell fire compelled the withdrawal of the working party of Indian cavalry.

Of other wadis in the area of the Jordan Valley, the *Wadi-el-Kelt* (said to be the Brook Cherith of the Bible) was by far the worst and most exposed to danger alike from enemy shell fire and the swarming *Anopheles palestinensis*. Owing to the rocky nature of the bed of the Kelt in the deep gorge, through which its course lay, complete canalisation was impossible, though carried out wherever practicable, and pushed for a considerable distance into the hills. The operations in other wadis were both extensive and laborious, but less difficult than in the Kelt; they included filling in or obliterating shallow, semi-stagnant, weed-grown expansions of the more open streams, the chief breeding places, and the burning of high reed and bamboo jungle.

Ain Es Sultan was an area, several acres in extent, of banana plantations and other cultivated ground near Jericho and copiously irrigated by overflow from two reservoirs which, in addition to supplying the town, were freely drawn on by the troops. The spot, owing to its swampy character, network of irrigating channels, and small surface holes, afforded free breeding facilities for both *A. palestinensis* and *A. maculipennis*. These conditions were remedied by stopping the irrigation of the banana trees, repairing the broken banks of watercourses, and cutting shallow straight drains, work on which 1000 men of the Egyptian Labour Corps were employed for a fortnight and subsequently 600 for two months. On the east bank of the Jordan two large swamps, both very bad breeding-places, were drained

very effectively, one close to El Ghoraniyeh bridge by diverting the Nimrin stream from its course, thus removing the cause of the swamp; the other at El Henn ford, six miles to the south, by digging deep ditches.

Antimosquito Work on the Lines of Communication.

Much antimosquito work was carried out during the summer of 1918 on the lines of communication, particularly at Latron, close to the Jaffa-Jerusalem road, where several miles of a small stream infested by *A. palestinensis* were cleared and canalised.

The lecturer eulogised the whole-hearted effort of all concerned, from the D.D.M.S. downwards, to cope with the problem of protecting the troops in Palestine from malaria by the suppression of mosquito breeding. He could not sufficiently praise the zeal and energy of the officers and other ranks actually engaged in the operations described. While hesitating to draw definite conclusions as to the results, he could state that for six months prior to October, 1918, the percentage incidence of malaria for the three corps composing the front line was just over five. In sharp contrast to this was the sudden rise in the malarial rate within three weeks after the date of the general advance.

Recommendations.

Major Austen concluded by making certain recommendations for the improvement and better organisation of antimosquito work based on his wide experience. 1. That the sanitary force should be independent of the R.A.M.C. and R.A.S.C. for supplies at short notice and be provided with its own separate store dump. 2. That the Sanitary Force should work in close coöperation with the Royal Engineers. 3. That the work should be under the supervision of a special antimalarial officer, who should remain unchanged, as far as possible, in sole charge irrespective of other changes in command. 4. That periodic inspection of the work should be made by an expert.

Discussion.

The PRESIDENT, speaking in terms of high praise of the value of Major Austen's work and what he had achieved, claimed that it played a large part in the success of the Palestine campaign. He drew comparison with similar work carried out in the Balkan area, and commented in particular on the promptness with which the request for 1000 men was met in three days, which showed what could be done in time of war.

Dr. ANDREW BALFOUR described a short visit of one week which he had paid to the Palestine front at the invitation of General Allenby to see what anti-mosquito work was being done between the Jordan Valley and the sea. In the former the conditions of heat and dust were indescribable. The difficulties encountered, especially in the Wadi-el-Kelt, were very great, as were also those attending the problem of suppressing breeding-places in the orange and banana groves, where the tiny rills and pocket pools easily escaped observation.

Surgeon Commander LESLIE MORRIS, R.N., spoke of antimalarial work which he had superintended in the islands of the Ægean and on the mainland of Thrace in connexion with the Naval Air Force camps and aerodromes. He laid particular emphasis on the importance of the antilarval campaign and the suppression of mosquito breeding, and on the value of thorough drainage of the subsoil water in securing removal of the surface pools; the operations included the extensive burning of reeds and superficial growth, and channelling and drainage of marshes. He approved of the prophylactic use of quinine bisulphate in solution, provided it was administered under supervision every five days, 30 gr. in amount, given in two doses, after breakfast and after tea.

Dr. P. H. MANSON-BAHR spoke from personal experience of the value of Major Austen's work in Palestine, and referred to the heavy toll taken by malignant tertian fever following on the general advance of the troops in the autumn of 1918.

Dr. ALDO CASTELLANI gave his opinion in favour of quinine prophylaxis combined with antimosquito measures in combating malaria, as the result of his experiences in the Balkans and in the Piave valley in Italy.

MEDICAL SOCIETY OF LONDON.

THE TREATMENT OF MALARIA.

AT a meeting of this society held on Nov. 24th, Mr. V. WARREN LOW, the President, being in the chair, a discussion on the Treatment of Malaria was opened by Lieutenant-Colonel S. P. JAMES, I.M.S., whose paper we print on another page of our present issue.

The Intravenous Injection of Quinine.

In the discussion which followed,

Dr. G. NEWTON PITT said that intravenous injection was a simple and valuable method of administering quinine which was seldom employed. Apparently a groundless fear of tetanus had prevented its more frequent use in India. It had also hitherto been disapproved of by the army authorities. The chief objection seemed to be associated with the idea that a large amount of fluid must be injected, and that the method must be reserved for only the most pernicious cases, but it was allowed that it was often most successful when all other methods had failed. Dr. J. D. Thomson and others had shown that 12 to 15 gr. of quinine in 5 to 15 c.cm. of fluid had been injected in some thousands of cases with practically no ill-results, but most observers had not used it. The amount absorbed was definite, the asexual parasites rapidly disappeared from the peripheral circulation, and cases which had previously been through intensive quinine courses and had relapsed obtained much benefit from it. Relapses could only be prevented by prolonged daily use of quinine, however administered, and hence the intravenous would not replace the oral method, but might be more generally used as an alternative in all resistant and severe cases. For the past four years at the 2nd London General Hospital relapsing cases had received an intravenous injection, followed by 10 gr. three times a day by the mouth, excepting once a week, when the injection was repeated. A stock solution of dihydrochloride of quinine, 4 gr. per c.cm., was kept and sterilised; 3 c.cm. of this, diluted up to 15 c.cm. with warm saline, was injected slowly with a small needle. The patient was kept quiet for an hour, or in bed if the temperature was not normal. There had been no ill-results, and little discomfort was experienced. Thrombosis was quite exceptional. The proceeding was painless and was much preferred by the patients to intramuscular injections. Cases of blackwater fever with abundant parasites in the blood, when the urine was not very scanty, had quickly cleared up with one or two injections. Dr. L. S. Dudgeon had shown that there was a tendency to produce necrosis when the injection was intramuscular; it was painful, the rate of absorption was uncertain, and the number of cases of resulting paralysis of nerves had been large. The rectal method was irritating, and examination of the urine has shown that often the quinine had not been absorbed. The subcutaneous method recommended in the "Military Medical Manual" was very painful and should never be adopted. The speaker claimed that the intravenous injection of quinine in 15 c.cm. of liquid might be much more generally adopted in all serious cases, especially in hospitals.

Quinine in Large Doses.

Dr. ALDO CASTELLANI said that the treatment of malaria could be summarised in one word—quinine. The dosage should be considerable; he used 30 gr. daily for adults, often 45 gr. and occasionally 60 gr. Possibly in temperate climates smaller doses might bring down the temperature. Children required more quinine than might be supposed. He usually advocated 8 to 10 gr. daily for a child of one year old. The drug should be given by the mouth in ordinary cases, intramuscularly in severe cases, and both intramuscularly and intravenously in pernicious cases. He preferred the bisulphate for oral administration. Intramuscular injections were extremely useful, but the following precautions were necessary. The skin should be disinfected thoroughly, the solution should be sterile and non-irritating, the injection should be deep, and an area already infiltrated should be avoided. The time for giving quinine in malaria in the tropics and malarial

countries was "at once." The noxious effects had been too much emphasised. Idiosyncrasy to quinine was very rare. It might be asked whether quinine produced a cure. It produced a symptomatic cure, but, no doubt, the infection often only became dormant. No other drug had a specific action. Methylene blue was occasionally useful in cases where quinine could not be taken. Arsenic was useful in chronic cases, but salvarsan and neosalvarsan had no specific action. Tartar emetic was beneficial in certain cases by reinforcing the action of quinine; the same was true of phosphorus. He preferred to inject the phosphorus subcutaneously (phosphorated oil, ♏i.-iv., in sterile olive oil).

Importance of Early Treatment.

Dr. ANDREW BALFOUR said that most people were in agreement about the treatment of malaria in the acute phase. It was important to treat malaria early before gametocytes were formed, and he advised that at the onset the patient should be kept in bed for from 10 to 14 days. The patient should be treated, not the disease. For ordinary cases oral administration sufficed; intramuscular injections were at times exceedingly useful, and succeeded when treatment orally failed. Intravenous injections were valuable, but he thought it was a method chiefly suitable for hospitals. The subcutaneous method, which had fallen into disuse, had recently been employed with some success in Dar-es-Salaam. As an explanation for relapses it might be that there were different strains of parasites, some not easily affected by quinine. Not the same difficulties had been encountered in this respect in Mesopotamia as in Macedonia. Sufficient emphasis had not been laid on tonic measures, and it was often forgotten how frequently the liver was affected. Injection of adrenalin as a means of treatment had nothing to recommend it, but it was possibly a useful diagnostic measure.

Lack of Authoritative Information as to the Nature of the Disease.

Dr. GORDON WARD said that the treatment of malaria depended considerably on the phase in which it was seen first, the duration of the infection, the particular associated symptoms, and the status and intelligence of the patient. It was, moreover, in part pseudo-specific, in part purely symptomatic. It might be prophylactic for the disease or prophylactic for relapses. It might be administered wholesale by the State or individually by the general practitioner. The practitioner felt at a loss both in the diagnosis and treatment of malaria because he could nowhere find authoritative information as to the nature of the disease or as to the part which was really played by quinine in its treatment. If quinine had never been discovered we should probably know a great deal more about malaria than we did to-day, and it was this essential ignorance of the nature of the disease and of what was to be expected in the course of it that so hampered the general practitioner. Much of the knowledge existed, but it was not widespread or easily available. He urged upon the society the desirability of supporting a committee charged with the duty of summarising our knowledge of the nature of malaria in a form suitable for the consumption of the general practitioner. It should read as a continuous story so that symptoms fell into their proper place and seemed to call naturally for the treatment which was appropriate. By time alone we should arrive at a more rational mode of treatment than we had at present. This treatment should give its proper place to quinine, but should not therefore deny the efficiency of auxiliary modes of treatment.

Ideas Concerning Modes of Treatment.

Dr. Ward then gave, as he said, a few examples of his ideas as to what he called the nature of the disease and their bearing on treatment, choosing examples which seemed to him to point to modes of treatment diametrically opposed to those officially advised. With regard to the acute relapse, the rigor, hot stage and stage of sweating, he conceived the sequence of events to be as follows. First there was sporulation of the parasite, conditioned by circumstances with which we were imperfectly acquainted. Sporulation was accompanied by liberation of toxins. The toxins affected many tissues, but chiefly the proteins of the circulating blood, especially those of the red cells. These were so altered as to become in effect "foreign" proteins, and this change was followed by the sequence of events which in other circumstances we called shock or anaphylactic shock. These events were a primary vaso-constriction leading to capillary stagnation, withdrawal of fluid from the vessels and consequent fall of blood pressure. With this there was some degree of exhaustion of the adrenal secretion. The primary vaso-constriction corresponded to the stage of rigor with pallor or cyanosis. The remaining stages were, he thought, associated with the return to normal, passing on the way through a stage of reactionary vaso-dilatation. The pyrexia was not an essential part of a rigor, for many observers had seen rigors in which it was absent. The fall of blood pressure and the adrenal exhaustion had been recorded by several observers.

Deductions from the Views Given.

Proceeding on the supposition that the above view was correct in general outline, he traced the actual symptoms of rigor to the changes in the blood proteins and not to the sporulation of parasites. It did not therefore seem essential to give quinine at once. He did not worry the patient while he was shivering as he was officially advised to do, nor did he introduce any drug into his stomach until the temperature began to fall. Experience told him that he would have plenty of parasites in the blood an hour or so later, and intravenous quinine could then be given with as much success as at any time, and with a great deal less discomfort to the patient. This was important, for the general practitioner was an exponent of the art of medicine first and of its science afterwards. Assuming that these views were correct in general outline, Dr. Ward deduced that the altered proteins would have to be excreted. Sometimes he found this happening in the form of albuminuria, rarely as hæmoglobinuria; not very frequently a tinge of jaundice told the same tale. He was therefore careful to assist elimination and recuperation as far as possible. The probability of a low blood pressure advised him to give plenty of fluid, as did the certainty that the kidneys were in some danger of being blocked with waste products. Should there be hæmoglobinuria this danger was very apparent, but if there was only albuminuria it was apt to be overlooked. The necessity for recuperation pointed to strict confinement to bed, attention to diet, &c. Opium was an antispasmodic and might therefore tend to mitigate the severity of rigors, consequently he always included a little liq. morph. hydrochlor. in a quinine prescription. Moreover, aspirin had the reputation of being a vaso-dilator, and he therefore gave it in the hope of hastening the sweating stage, and had very little doubt that it had this effect. If the acute relapse were essentially an auto-anaphylactic process it might be possible to treat the disease by anaphylactic injections. Widal, Abrami, and Brissaud had demonstrated that the paroxysmal hæmoglobinuria of syphilis, which closely resembled in all clinical particulars blackwater fever, was auto-anaphylactic in origin and nature. By measures devised from this point of view they had so far succeeded in curing patients of this disease that they no longer had attacks even when exposed to cold in a way which had hitherto always produced them. It was within the bounds of possibility that we had here the germs of a treatment of malaria which would enable us to deal with symptoms which seemed beyond the influence of quinine.

The Importance of Toxic Hæmolysis.

He supposed that the destruction of red cells by the lodgment of parasites was a negligible factor in the production of anæmia, and that a toxic hæmolysis was all-important. He presumed that this hæmolysis took place in the peripheral circulation in part, but chiefly in the portal. This he explained by supposing that red cells injured short of hæmolysis in the peripheral circulation were unable to resist the hæmolytic activity of the spleen in the portal circulation and so succumbed there.

If there was much peripheral destruction we might find hæmoglobinuria, but the kidney was able to deal with a certain amount of hæmoglobin and did not pass it on unless the amount was considerable. In either case some was retained in the kidney as an iron-containing pigment. That in the portal circulation was partly turned into bile and partly also stored. There were good grounds for supposing that the marrow also retained some iron. It therefore followed that in a severe anæmia after many relapses or even after a single severe relapse, such as in blackwater fever, the body had very large stores of iron. According to this view, administration of iron for the anæmia of malaria was not necessary, and he was convinced that it was often not well borne and so actually undesirable. He did not give iron, but insisted on plenty of light and fresh air, and found that the red cells augmented as quickly as had been recorded for any sort of anæmia. He therefore reached a point of view very opposite to that to which he was asked to subscribe not long ago—viz., the treatment of malaria in dark tents with iron tonics. In a great many other particulars he believed that there was reason to suppose that a more widespread understanding of the nature of the processes entailed in the course of malaria would rationalise treatment.

"Malaria" a Group of Three Fevers.

Major H. W. ACTON said that it was often not realised that "malaria" constituted a group of three fevers, each with its own parasite. In order of frequency of relapses, quartan came first, benign tertian next, and malignant tertian last. Malignant tertian cases did not relapse after quinine treatment, but there seemed to be a chance-like character about the action of this drug in the benign tertian form. It was suggested that the malignant tertian parasite was attacked because the drug became fixed in the internal organs, whilst the parasites of quartan and benign tertian malaria, circulating in the peripheral blood, might escape for the same reason. Attempts were made to find another cinchona alkaloid which would have the action of quinine and yet remain unfixed. Cinchona febrifuge, which contains quinine, quinidine, cinchonine, and cinchonidine, was found to be more beneficial in benign tertian infection than quinine. By exclusion it was shown that the therapeutic result was attributable either to the quinidine or to quinidine and cinchonidine.

Individual Variation in the Reaction to the Disease.

Major J. PRATT-JOHNSON recounted his experiences of the treatment of malaria in South Africa in the troops returning from the East African campaign. He pointed out that malaria varied enormously in its effects in different individuals. The treatment of every case should be controlled by systematic blood examinations. The treatment he had advocated was 30 gr. of quinine daily for three weeks, followed by 20 gr. for a month, and then by 10 gr. for two months. No man was discharged until two consecutive examinations of his blood were negative for parasites and until he was clinically fit. Important to the success of treatment was the patient's own defensive mechanism; quinine did not exert a parasiticidal effect in debilitated persons. Salvarsan preparations were used considerably; benign tertian infections appeared to be cured by it, but in malignant tertian malaria it seemed to act rather as a tonic. Soamin exerted no definite parasiticidal effect, but was also apparently tonic in its action. If quinine were absorbed the route by which it was administered did not matter.

CARDIFF MEDICAL SOCIETY.

Exhibition of Cases and Specimens.

AT the monthly meeting of this society, held an Nov. 11th, the following cases and specimens were shown or reported.

Mr. E. T. COLLINS showed: 1. Specimen of Large Egg-shaped Calculus, weighing 5¾ oz., removed by vaginal cystotomy. 2. Specimen of Carcinoma of Body of Uterus, for which he had performed subtotal hysterectomy. 3. Specimen of Cornual Ruptured Pregnancy involving the fundus. 4. Intraligamentous Fibromyoma, including body of uterus, removed by supravaginal hysterectomy.

Dr. EWEN MACLEAN showed: 1. Specimen of Tubal Gestation. He discussed the question of diagnosis, with special reference to the interstitial variety. 2. Specimen of Multilobular Soft Fibromyoma of Uterus weighing 6½ lb. Reference was made to differential diagnosis and to some difficulties in the operative removal of the mass when, as in this instance, the main development of the tumour was intraligamentous.

Dr. HERBERT T. EVANS showed: 1. Case of Chronic Progressive Paralysis of Cranial Nuclei for last nine months, beginning with ptosis of left eyelid and diplopia, followed by strabismus and subsequently by ophthalmoplegia externa of both eyes, and, finally, complete ophthalmoplegia of both eyes. During last three months the soft palate has become paralysed, and in addition to the nasal voice the articulation has become defective, while deafness has set in. So far the tongue shows no sign of wasting. No changes have been noted in the discs or elsewhere.

Dr. LEIGHTON DAVIES showed: 1. Case of Double Microphthalmia in a boy of 6 years of age. Both eyes were undersized, the left being the smaller. In each eye there was an incomplete colotoma of the choroid, very extensive in the left eye, less so in the right. There was no colotoma of either lens. 2. Specimen of Bisected Buphthalmic Eye. The condition was shown to be entirely different in its pathogenesis from microphthalmos as buphthalmos was always due to definite pathological changes associated with permanent or transient rise of intraocular tension—i.e., glaucoma. Such eyes were always more or less blind, whereas microphthalmia might be associated with useful vision.

Multiple Fibromyomata of Uterus.

Mr. B. K. T. COLLINS read a note on a case of Multiple Fibromyomata of Uterus with double hæmatosalpinx and double cystic ovaries removed by supravaginal hysterectomy. Patient, aged 47, single, history of three years' heavy war work in France after frequent and severe hæmorrhages; very anæmic. Uterus was one mass of small fibromata like marbles, none larger than a walnut. Patient made an uninterrupted recovery.

Ruptured Aorta.

Dr. IVOR J. DAVIES read a preliminary note on a case of Ruptured Aorta, hæmopericardium, sudden death. Colliery repairer, aged 52, previously healthy, found dead beside truck of pit props (pinewood) which he was unloading alone, seen five minutes previously actively at work. One of these heavy props was lying across his chest. On examination there were severe contusions in the entire extent of soft parts over the ascending aorta, strictly limited to this situation. The pericardium was of normal capacity, was full of blood and clot. The aorta in intrapericardial portion and immediately above sigmoid area showed a transverse clean rent involving two-thirds circumference. Cut edges of intima were sharp and were retracted slightly over whole area of rupture. There was a linear vertical crack in intima extending upwards for 1½ in. from posterior extremity of complete rupture, and a smaller lesion was seen in endothelium of posterior sinus of Valsalva. Aorta in entire extent did not present any evidence of disease. Heart was somewhat fatty and flabby, but otherwise healthy. Kidneys showed granular changes, all other organs healthy. The opinion was expressed that the man received a heavy blow over the ascending aorta from one of the pit props slipping end-on-wise towards him.

UNIVERSITY OF LONDON.—The Paul Philip Reitlinger prize, offered this year for the best essay on "English Poetry in the Twentieth Century," has been awarded to Benjamin Ifor Evans, of University College. The prize, of the value of £30, was founded with funds given to the University by Mr. Albert Reitlinger in memory of his son, a student of Middlesex Hospital Medical School, who died on Dec. 3rd, 1911. Next year the prize will be awarded for the best essay embodying the result of some research on a medical subject carried out by the candidate.

Reviews and Notices of Books.

A Physician in France. By Major-General Sir WILMOT HERRINGHAM, K.C.M.G., C.B., late Consulting Physician to the Forces Overseas. Illustrated. London: Edward Arnold. 1919. Pp. 293. 15*s*.

IN putting on record his war experiences Sir Wilmot Herringham has produced a very readable and interest-book which should appeal to a wide circle of readers, and serve the useful purpose of bringing home to the lay public the important part played by the physician in the medical service of an army at war. The dramatic rôle of the surgeon in the treatment of war injuries is, from the nature of things, apparent, but it is only in the last few years, and above all in the recent war, that the striking results of the application of medical measures, both preventive and curative, have been so apparent and so beneficent.

Sir Wilmot Herringham has had unusual opportunities of observing these matters, as is well known to all our readers. In the book before us he gives in popular language and in engrossing manner a careful account of the various aspects of a physician's work in the war area. But his book is more than a description of the purely medical service of an army; he gives humorous descriptions of incidents that have come under his own notice, he shows his great interest in nature in his descriptions of the places he has been in, and brings the war area vividly before his readers. He also comments on many questions—social, political, and economic—in a philosophical spirit, and when, as sometimes, his reflections are expressed in light vein, they serve none the less to emphasise the depth of his convictions and his abiding faith in the character and good sense of his countrymen in these troublous times of transition. Further, in his occasional excursions into political questions he shows himself eclectic and not partisan.

He gives an interesting description of the Royal Army Medical Corps and of its absorption for the war of the large numbers of civilian doctors who came voluntarily to its aid or were brought to it by special enrolment. In view of a report of a recent speech of his in our columns and of his letter in disclaimer in our issue of Nov. 15th, it is of interest to see what his views as recorded in this book may be. He shows a sympathetic appreciation of the difficulties encountered by the corps, and defends it from most of the carping criticism which was put forward in some quarters during the war. At the same time he criticises some of its methods and points out some of its weaknesses, but always in a friendly spirit and with an entire freedom from personal or uncharitable bias. His descriptions of the work and organisation of the field ambulances, the clearing stations, and questions of transport, base hospitals, and nursing are clear, interesting, and contain much information that will be new to the civilian, painting a picture of fine organisation.

Special chapters are devoted to enteric fever, cerebro-spinal fever, trench fever, and shell shock, in which the problems of pathology, diagnosis, and treatment are discussed in simple language and made intelligible, so that they should be of great interest to the public. In these chapters and in one which succeeds them, entitled "The Advance of Medicine During the War," the romance of scientific investigation is shown and the value of organised research to the health of the community, whether in peace or war, is clearly brought out, while the valuable work of the Medical Research Committee is warmly commended.

Sir Wilmot Herringham makes many references to those with whom he has worked. He describes with real feeling the practical help given by American medical officers, and speaks in the highest terms of their ability and enthusiasm. The organisation of the Red Cross and its administration comes in also for high praise. The descriptions of many incidents in connexion with daily life and relations with the French people display a sincere appreciation of the national qualities of our great ally.

We have read the book from cover to cover, and can say without hesitation that there is not a dull page in it—a phrase that is constantly employed but which here is meant.

Manual of Tropical Medicine. By A. CASTELLANI, M.D., and A. J. CHALMERS, M.D. Third edition. London: Baillière, Tindall and Cox. 1919. Pp. 2436. 45*s*.

BETWEEN the issue of the second and third editions of Castellani and Chalmers's well-known and deservedly popular "Manual of Tropical Medicine" much has happened in this special branch of science. The great war has brought many people into contact with such diseases for the first time, and, as the authors express it, "the massed formations of medical knowledge at work in the recent war at the study, treatment, and prevention of disease will produce results which would have been but slowly evolved in years of peace." It is true that much work has been accomplished, some of it, indeed, of a high order, but at the same time it must be remembered that much has been written by amateurs who have never had a thorough drilling in the literature of the subject, and who in consequence have made "important discoveries" which had been made in many instances before their birth. Yet, as Castellani has shown, the war has brought into prominent notice the fact that so-called tropical diseases exist in abundance in subtropical areas such as the Balkans, while the massive numbers of people infected with malaria and dysentery have furnished an abundance of clinical material which could never have been procured in times of peace. New diseases not specially tropical have appeared, such as trench fever and camp jaundice, and these have been incorporated in an added chapter entitled "War Zone Fevers," which deals also with spirochætal jaundice (Weil's disease). The discovery of spirochætes in this disease is new, and now we have in addition "rat-bite fever" and the seven-day fever of Japan, also proved to be due to similar parasites. Again, Noguchi has found what he terms a leptospira in yellow fever, a discovery which, if confirmed, will revolutionise our conceptions of the ætiology of this disease. Leiper's work on bilharziasis is also of the greatest importance, as the whole life-history of the parasites has now been satisfactorily worked out, and the differentiation of the two species *S. mansoni* and *S. hæmatobium* placed upon a permanent and sure foundation. Much work has also been carried out on bacillary dysentery, typhus, typhoid, and the para-typhoid groups. The louse is now known to act as the intermediate host of relapsing fever, typhus, and trench fever, and the work of Byam and his collaborators on the latter disease is fresh in the memory of all. As regards treatment of tropical diseases, the most important advance is undoubtedly the proved efficacy of intravenous injections of tartar emetic in stamping out bilharzial infections. The use of antimony in tropical diseases is by no means modern, but its application to new diseases is full of hope, especially after its success in bilharziasis. Another very important addition to treatment, that has occurred since the last edition of this book, is the administration of emetine by the mouth instead of hypodermically by the needle. The oral route has been conclusively proved to be far in advance of the subcutaneous method, and the percentage of real cures has risen in consequence.

Naturally the incorporation of all this new work has compelled the authors greatly to increase the size of their book. With the index its pages now number 2436. This makes the book a distinctly bulky and heavy tome either to carry about or to hold comfortably in study at home. In future editions the advisability of breaking up the work into separate volumes will have to be faced. It is needless to comment upon the vast amount of information contained within these pages, much emanating from the authors' own wide experiences in the tropics. As a book of reference it must prove invaluable to all workers in tropical medicine, and though perhaps a little too big for the junior student, it should be well within the compass of the senior one. As to its

popularity, this is at once evidenced by the fact that the second edition went out of print some years ago, and it was only the war that prevented an earlier revision. Much of the present edition has been rewritten, and the number of illustrations has been greatly increased. Minor mistakes do, it is true, occur in places, but these can easily be eliminated in future editions, when the authors will have more time at their disposal to go carefully through the text. That they should have been able to produce a new edition of such magnitude so soon after the war is a great achievement.

Menders of the Maimed: The Anatomical and Physiological Principles Underlying the Treatment of Injuries to Muscles, Nerves, Bones, and Joints. By ARTHUR KEITH, F.R.S. With 23 figures, 16 of which are portraits. London: Henry Frowde and Hodder and Stoughton. 1919. Pp. 336. 16*s*.

IT is not often that the reviewer's task is made so pleasant as has been the case with this last book of the conservator of John Hunter's Museum. Here is a book in which medical history has been used aright. Every page forms part of a pageant of knowledge, the whole being skilfully marshalled by Professor Keith, who plays the part of an engagingly intimate showman, pointing out to the reader (who has been taken into the author's special confidence) the characters of the actors, the manner of their lives, and the contributions that they made to medicine as illustrated in orthopædic history. There is a peculiar quality in this confidence which the showman shares with the spectators. At times he whispers to us behind his hand—at times we can almost imagine that he winked in the telling; but always he draws a clear cut picture and places it in its relative position in the show with such certainty that we look upon a procession of living and mostly engaging men. But soon we find that it is more than men that our guide is telling of. He is in reality showing us a procession of knowledge—a pageant of thought, and the characters are displayed for his well-fulfilled purpose of holding our attention throughout. Such is the impression of an extremely interesting book. The style of the portrait illustrations does not please, and one longs to see the book dressed in a garb more fitting to its character. The Menders of the Maimed, whose portraits are given, include John Hunter, John Hilton, Hugh Owen Thomas, William John Little, George Frederick Louis Stromeyer, Marshall Hall, G. B. A. Duchenne (of Boulogne), Sir W. A. Lane, Lewis A. Sayre, J. Lucas-Championnière, H. L. Duhamel de Monceau, John Goodsir, James Syme, L. X. E. L. Ollier, Julius Wolff, and Peter Redfern. The work of Adams, Macewen, and others is considered, although their portraits do not appear.

The Manchester Grammar School, 1515–1919: A Regional Study of the Advancement of Learning in Manchester since the Reformation. By ALFRED A. MUMFORD, M.D. London: Longmans, Green, and Co. 1919. Pp. 563. 21*s*.

Dr. Mumford has set out the idea of his work in the following words: "I have attempted to consider the way in which a collegiated body established in the time of the Plantagenets, a grammar school founded for 'godliness and true learning' in the time of the early Tudors, a town library established and well endowed during the Commonwealth, and a succession of Nonconformist academies ultimately giving place to a provincial university in the latter half of the nineteenth century have acted and reacted on each other ....." Dr. Mumford's attempt has been made with all earnestness, but the result is somewhat confusing, for he shifts from the consideration of one institution to another in a bewildering fashion. Moreover, he sometimes applies the title "College" to the collegiate church and sometimes to the grammar school. But he is so modest and so conscious of possible deficiencies that we must pardon those we find, even though they be mentioned.

Manchester Grammar School was founded by Hugh Oldham of Ancoats, who was educated under the auspices of Lady Margaret Beaufort, well known for her foundations both at Oxford and Cambridge. He rose to be Bishop of Exeter, and was probably intimately acquainted with Colet, Dean of St. Paul's. Dr. Mumford has made a slip when he says, p. 9, that Oldham acted as epistoller—i.e., subdeacon—when Colet preached his great sermon on ecclesiastical reforms before Convocation at St. Paul's. It was not upon this occasion, but on another—namely, when Colet preached during the Mass at Wolsey's installation as Cardinal in Westminster Abbey. Colet preached before Convocation in 1511, Wolsey's installation was in 1515. Oldham was probably led to found his grammar school in 1515 by the example of Colet's great foundation of St. Paul's School in 1509. It had some connexion with a pre-existing chantry school at the collegiate church, and was altogether under ecclesiastical management, but in 1524 new statutes were drawn up placing the school under lay management and ecclesiastical supervision. The high-master and usher were nominated by Corpus Christi College, Oxford, and the warden of the Manchester Collegiate Church was official visitor. The statutes of the school, drawn up in 1525, closely followed those of St. Paul's School. From the time of the Reformation until that of the Restoration Manchester School was mainly under Puritan influence; after the Restoration, the Church and Court party apparently gained the upper hand, though upon the rise of Whiggery this declined. Between 1720 and 1749 the school nearly collapsed, but eventually weathered the storm. The varying fortunes of the school during the hundred years 1749–1859 are fully and pleasantly set out, but at the latter date there came a man to the school who was destined to make it arise like the Phœnix. This man was F. W. Walker, who was head-master from 1859 to 1876, when he applied for and obtained the high-mastership of St. Paul's School. Walker's admirable work at Manchester will be found described with due appreciation in Dr. Mumford's thirteenth chapter. Ever since his coming the school has never looked back. During the Great War 3500 of her alumni served, of whom 1500 held a commission, and of these 480 gave their lives.

Although, as we have said above, the book is confused, yet it is a record well worth reading of the growth, the struggles, the falls, and the risings again of an institution which may well delight the heart of the founder as he regards its progress from "the other side." There are 21 appendices, giving amongst other information quotations from original documents, such as the statutes made on the foundation of the school and the further statutes drawn up in 1525. There is also, we are glad to see, a copious index.

JOURNALS.

Archives of Radiology and Electrotherapy (formerly *Archives of the Roentgen Ray*).—All through the war this journal has maintained a high standard of excellence notwithstanding the difficulties of the time. It is not too much to say that but for the able and devoted work of the late Dr. W. Deane Butcher in carrying on through a more than ordinarily critical period, and until the present editorial staff could be organised, this valuable journal might have disappeared. Though expensive to produce, its high standard has been maintained consistently, and it is doubtful if any similar paper can show a greater degree of technical skill in text and illustration.

In any of the late issues we find interesting and important papers by well-known writers that will repay perusal. The October number now before us contains one by Mr. W. Sampson Handley "On the Mode of Spread of Cancer in Relation to its Treatment by Radiation," a most valuable contribution to a difficult subject, and, with the numerous and excellent illustrations explaining the author's argument, is in itself worth the price of a year's subscription. Dr. Dawson Turner reports in detail a case of lympho-sarcoma treated by radium that is worthy of special attention, and Dr. Robert Knox concludes a series of papers on the examination of the liver, gall-bladder, and bile-ducts.

Not the least valuable feature of the journal is a very comprehensive series of notes and abstracts on radiology and kindred subjects from every part of the world.

THE LANCET.

LONDON: SATURDAY, DECEMBER 6, 1919.

The Basis of Contract Practice.

Two meetings held in London last week dealt with vital questions of contract practice under the National Insurance Acts. The annual conference of representatives of Local Medical and Panel Committees met in the Memorial Hall, Farringdon-street, on Nov. 27th and 28th, under the auspices of the British Medical Association and the chairmanship of Dr. H. G. DAIN, of Birmingham. A conference also met at the First Avenue Hotel on the preceding day, summoned by the Medico-Political Union, under the chairmanship of Mr. W. F. H. COKE, of Ashford. Both meetings had before them the size of the capitation fee for which insurance practitioners are prepared to render willing and efficient service, and secondly the effect on the goodwill of an insurance practice of a new clause, entitled "Change of Practitioner," in the draft of the Medical Benefit Regulations for 1920. Firm and united action on these two principles was resolved upon at both deliberations, the only difference of outcome being the method by which it is desirable to bring pressure to bear upon the Minister of Health, should he not find himself prepared to accept what the medical profession as a whole considers to be a fair and reasonable demand for its services under the Insurance Acts. The recognised practice of the Insurance Acts Committee, instructed by the Local Medical and Panel Committees up and down the country, whether officially connected with the British Medical Association or not, has been that of collective bargaining, keeping in the background as an ultima ratio the refusal of service if no bargain acceptable to its members should be struck. The Medico-Political Union prefers to state its terms precisely to the Minister of Health in his capacity of employer of medical labour, and to accompany the statement with an intimation that service will not be rendered on any other terms.

The Conference of Representatives passed unanimously a resolution maintaining the opinion that 13*s.* 6*d.* is the lowest fee which can properly be accepted by the panel practitioner for an effective service. On behalf of the Insurance Acts Committee, its chairman, Dr. H. B. BRACKENBURY, stated that this capitation fee had been worked out on a scientific and moderate basis, and that, in support of it, he and his colleagues were prepared to face bravely a body of experienced civil servants. Opposition will have to be met. The tone of the leading article in last week's *National Insurance Gazette* makes that abundantly clear, and in a letter addressed by Dr. ADDISON to the chairman of the Insurance Acts Committee, which was read at the opening of the conference, the Minister of Health expressed the doubt in his own mind as to whether he could justify at the present moment so large an expenditure of public money as a capitation basis of 13*s.* 6*d.* would represent. A deputation from the Insurance Acts Committee, strengthened by three nominees of the conference, will meet the Minister this week, hoping to convince him both of the strength and reason of the panel practitioner's demand. The deputation has the conviction that if submitted to arbitration its demand would be found by an impartial tribunal to be justified to the sixpence. Rural practitioners, whose out-of-pocket expenses per visit are necessarily greater than in urban areas, are to have the position equalised to some extent by a much increased mileage grant which is to amount to £300,000 for the year 1920, as compared with the £80,000 allotted to the purpose in the current year. This equalisation of the variant factor in insurance practice makes it possible, as never before, for the whole body of panel practitioners to unite in a common demand based upon the recognised value of their time and skill.

Equal unanimity marked the resolution of the Conference of Representatives regarding the clause in the draft Regulations referring to the removal of the insured person's name from the list of a practitioner in case of death or withdrawal from the medical list. As things are at present, 97½ per cent. of the goodwill of a panel practice is regarded as transferable on death or removal, and since with the panel goes a variable amount of associated private practice, any substantial alteration of the Regulations in this respect may be equivalent to a diminution in the capital value of the practice. It is well known that no such depreciation was contemplated by Mr. LLOYD GEORGE when framing the first National Insurance Act, and in 1911 a statement was made by him to this effect, when speaking to the Representative Meeting of the British Medical Association. With this in mind the conference protested against the introduction of any regulations in regard to the transfer of practices which might, in effect, rob insurance practitioners of the capital value of their practices after 1922, the date mentioned in the draft. Apparently in a few cases there has been speculation of an undesirable character by third parties in the transfer of a practice from one genuine practitioner to another, and the new regulations are designed to remedy this admitted but minor evil. The conference felt strongly that in so doing a greater evil was being introduced. It may well be that in the natural order of things, as preventive medicine grows and curative medicine takes a second place—a goal towards which medicine is steadily advancing—the medical practice as a capital asset will gradually drop in value. Against this depreciation the panel practitioner might be insured by some such scheme of mutual insurance as was outlined by the London Panel Committee for the consideration of

the conference. It will not appeal to the sense of fairness of the medical profession as a whole that the livelihood of a section should be reduced by the administrative action of the Ministry of Health without the offer of compensation in some form or other. On both the matters at issue questions of principle are at stake.

The Mental Deficiency Act: A Valuable Conference.

UNDER the auspices of the Central Association for the Care of the Mentally Defective there was held on Nov. 28th a conference on the administration of the Mental Deficiency Act, 1913, so largely attended that its venue had to be changed from the Guildhall to Church House, Westminster. At the morning session, presided over by Mr. LESLIE SCOTT, K.C., M.P., an address was given by Dr. ADDISON, Minister of Health, while Dr. MEREDITH YOUNG and Dr. G. A. AUDEN read papers. Dr. ADDISON'S remarks dealt chiefly with the treatment of mental defect as a branch of preventive medicine, and his testimony to the value of scientific research was regarded as indicating a prospect of improved financial conditions for the carrying on of work of this kind in connexion with mental disorder. To the majority of those present a statement by Sir WILLIAM BYRNE, chairman of the Board of Control, on the desirability of joint action by local authorities for the provision of institutions appeared the most important feature of the proceedings, and in the discussion which followed Sir WILLIAM BYRNE had to listen to some pointed, if good-natured, criticism from representatives of local authorities.

The shortcomings of the Mental Deficiency Act, a fertile theme, were by no means exhausted at the conference. Dr. MEREDITH YOUNG and other speakers touched on the difficulties of administration which attend the attempt to get mentally defective persons under control. Stress was laid especially on the need for bringing within the scope of the Act defectives suffering from venereal disease. Nothing, however, was said of the problems which arise after control is obtained. One of the chief arguments for joint action advanced by Sir WILLIAM BYRNE was that "for efficient and economical working, institutions must be of a certain minimum size," and it may be presumed that he had in mind such institutions as are provided by county authorities for the insane. Modern institutions of this class accommodate some 2000 patients. If a place of this kind was provided under the Mental Deficiency Act and filled, say, in the course of a year, all the patients, if newly certified, would require continuation orders at the end of 12 months. To obviate the difficulty of keeping the visiting justices in permanent session it would probably be arranged for the detention orders to remain effective until the end of the quarter, when 500 or so would require to be dealt with at a time. If the visiting justices undertook to work through 50 cases a day—and the value of examinations made at that speed can be judged by anyone for himself—each batch would take 10 days, so that in all 40 days would be spent in this particular wilderness during the year. This is no fanciful picture. For example, in his report for the year 1916, the medical superintendent of the Royal Earlswood Institution noted that "our county magistrates spent six whole days of five working hours to perform the first annual re-certification." At the conference Miss DENDY, one of the Commissioners of the Board of Control, insisted that of cases falling within the purview of the Act it might truly be said "once defective always defective." Anyone who has practical knowledge of the subject will, no doubt, agree with her, though he may well be prompted to ask, Why then is re-certification necessary? Even when the period covered by an order becomes extended to five years re-certification is a work of supererogation, while the requirement that, although seen by the justices a few weeks before, a patient must be brought up again at the age of 21 seems based on the tradition that the human organisation changes at every seventh year. On the whole it is not surprising if those who have to administer the Mental Deficiency Act find their task a wearisome and exasperating business and feel that, instead of being tinkered at, the Act should be "amended" with a hatchet wielded by someone with a spice of imagination.

As it is, the intricacies of the Act render it essential for its administration that a friendly voluntary organisation, with a skilled staff of workers, should be available to assist parents and the public to obtain the designed benefits. The matter is of pressing national importance, for the necessity of caring for the mentally defective has never been more apparent than under the complicated social conditions of the present time, when it is almost inevitable that the weakest must go to the wall. The moral aspect of the question especially needs careful investigation, and increased opportunities of scientific research. Happily the Government departments seem to be awaking to a sense of responsibility in this matter, and the medico-legal aspects of the problems of the connexion of crime with mental defect are beginning to be recognised by some of our more progressive juristical authorities. The field of work is extending in every direction, and the Central Association for the Care of the Mentally Defective is well equipped for coördinating the efforts, many of which, if they are to prove effective, must be directed by the medical profession.

The Teaching of Medical Ethics.

THE session of the General Medical Council which closed last week was a brief one, but, none the less, opportunity was found for several valuable discussions, arising either on direct motions by members or upon reports of the various committees. One such motion, which met with success after some debate, was that of Dr. J. C. MCVAIL, who

proposed that further inquiry should be made by the Education Committee of the Council as to the instruction which is now being given to medical students upon the duties of medical practitioners in reference to the State, and upon the generally recognised rules of medical ethics. More than three years ago the Council formally resolved that this question should be remitted to the Education Committee, and it is easy to see that the circumstances calling for full appreciation on the part of medical men of their relations with the State have since that time become more urgent. Under the Ministry of Health the contact between the profession of medicine and the community to which it ministers is certain to become much more close, and in a thousand and one directions where the public health is concerned mutual understanding will be required, so that on the one hand the public may get competent service, and on the other hand the medical profession may obtain equitable treatment. It is reasonable that the student should receive during pupilage information upon the working of the Medical Acts and upon all rules and regulations which will form the conditions of any State service he may undertake later. Government forms are too often neither simple to understand nor easy to execute, and there is obvious room here for valuable tuition.

But while there is no doubt of the advantage which would accrue to the student, and eventually to his patients, from his instruction on the duties which will devolve upon him in reference to the State, we do not feel at all certain that the second part of the resolution, which recommends that the student should be instructed on "the generally recognised rules of medical ethics," is either a necessary or a wise suggestion. We agree here with Sir GILBERT BARLING, who in the course of the debate said that ethics could not be taught, for their influence was acquired by a process of absorption. Surely this is the truth which has prompted the foundation of all our universities and has inspired the working of all our schools; good communications produce good manners, but communications are conditions of environment and cannot be created by any schedule of rules. Further, and as Sir NORMAN MOORE suggested, there are no ethics in the conduct of medical affairs which are not applicable to all human affairs. Religious tuition apart, the student learns in school and university, in work and recreation, the standards that will gain him acceptance with his fellows as one who is willing to play an honourable part in the conduct of life; and just as there are no different rules in the game of life for the medical student, the theological student, or the legal student, so in the future careers there are no separate and distinct ways of displaying regard for ethics. It is unfortunate that the public should be obstinate to believe that medical men are guided in their behaviour by a set of rules designed to maintain medical interests at the expense of the layman's purse, which rules they term medical ethics, or, worse still, medical etiquette. This belief, which is the origin of considerable mischief in society, has been promoted by a misunderstanding of the reasons why certain procedures in medical practice are looked at askance by practitioners, and why others may be made the subject of penal procedure before the General Medical Council. Medical men are expected to comply with a scheme of behaviour marking the difference between a learned profession and a commercial trade. In a commercial trade rival traders compete for public favour by advertisement, and to do so is perfectly correct, for the public can judge the truth of the promises held out. In the case of a learned profession the public cannot be in such a position of intelligence, and therefore the members of these professions do not as a class make public appeal for favour. Medical men need not regulate their conduct towards each other and towards the public by a code designed to meet special cases, for obedience to the dictates of medical ethics implies application to the ordinary chances of professional life of the rule that a man should do as he would be done by. Particular interpretations of this rule cannot be learned by rote.

Room may well be found for instruction in the responsibilities of the medical man towards the State, but with difficulty can we imagine any purpose being served by addressing medical students upon how to behave with honesty, generosity, and courtesy towards their professional brethren of the future; we fear that lectures delivered with this object might often become discourses of the Chadband type. Therefore we hope that the General Medical Council, when the Education Committee reports on the whole matter to the next meeting, will take the view that set instruction upon medical ethics, as constituting some morality special to the medical profession, will not be given. At the present moment the curriculum is overloaded, and most of the educational authorities in the profession are straining to find a way to broaden and simplify it. In these circumstances every hour added to the time compulsorily taken up by addresses is taken from the scanty time required to master the working essentials of a difficult calling. But one thing seems certain, and that is, that the acceptance of Dr. MCVAIL'S motion by the Council, whether wholly or only in part, brings the day nearer when a general practitioner, chosen for his experience and fitness to fill the post, will take his place on the educational staff of hospitals to which medical schools are attached. It is the general practitioner whose experiences will enable him to teach a class what are the things which should be realised in our relations with the State.

ROYAL INSTITUTION.—The lecture arrangements at the Royal Institution include three lectures on "The Evolution of Man and the Early History of Civilisation," by Professor G. Elliot Smith; two lectures on "Magnetic Susceptibility," by Professor Ernest Wilson; and four lectures on "British Ethnology," by Professor Arthur Keith.

Annotations.

"Ne quid nimis."

THE MEDICAL SCHOOL OF STRASBOURG.

THE recent inauguration of the Université de Strasbourg by the President of the French Republic, on the anniversary of the entrance of French troops into the town, is of more than domestic interest. The University dates from the sixteenth century, and was divided into four faculties—one of them being a faculty of medicine—in the year 1621. In the eighteenth century the fame of its teaching was widespread, and attracted students from the whole of Europe. More recently names such as Pasteur, Sébillot, Schutzenberger, and Emil Kuss added a new lustre to the University life. In 1871, when Alsace was taken by the Germans, they set about founding buildings worthy of a great tradition, and at a cost of over two millions sterling lecture theatres and laboratories were erected on a generous scale, as well as a fine library, which now contains over a million volumes. The French Government is now planning to take full advantage of the new buildings, and Parliament is being asked to vote large sums of money for their further equipment and upkeep. Efforts are being made to attract to Strasbourg British students who formerly would have studied in Bonn, Heidelberg, or Göttingen. The German student hostels are to be converted into clubs for British and American students, and next summer a special school will be opened for teaching French to uni-lingual visitors. No aspect of university life is being neglected, and an athletic stadium is contemplated. The prospectus for 1919–20 gives information of the conditions for admittance to the University, particulars of the faculties, and the names of the professorial staff. A Faculté de Théologie Catholique will work side by side with a Faculté de Théologie Protestante, in the same way as at the town of Näfels in the Swiss canton of Glarus both confessions have, since the Reformation, worshipped in the same building. In the syllabus of the Faculty of Medicine a proper place is given to practical work, and facilities are offered for research under distinguished supervision. We believe that the claims of Strasbourg may well appeal to some of those who are at present attending our own overcrowded university courses or impatiently awaiting their turn to enter.

SYPHILIS OF THE EPIDIDYMIS.

Dr. H. E. Michelson,[1] lecturer in dermatology at the University of Minnesota Medical School, points out that Benjamin Bell, of Edinburgh, in 1793 was the first to draw attention to syphilitic diseases of the testes. It is interesting to note that so great an authority as Ricord denied the existence of syphilitic epididymitis, which has since been described by Nélaton, Fournier, and others. Three forms have been recognised: (1) acute diffuse interstitial; (2) chronic diffuse interstitial; and (3) gummatous. Very few cases of the first type occur before the third year, and the majority are found after the fifth year. In the early stage there is a partial or total swelling of the entire epididymis. The enlargement is rather acute, somewhat painful, and accompanied by some degree of hydrocele. The acute symptoms subside in a few days, leaving a painless, irregular thickening of the entire organ. In a few months the induration may become absorbed and the epididymis returns to its normal size, but more often it remains solid and somewhat sensitive. In some cases it may become atrophic. Bilateral involvement is unusual. The chronic diffuse interstitial type which is more common may follow the acute variety or come on independently of the acute attack. The entire epididymis forms a firm, solid, uneven, independent tumour in apposition to the testis. The vas deferens is rarely involved. Fluid which is usually present at some stage may be caused by thickening of the tunica vaginalis and subsequent disturbance of circulation, or may be due to a chronic passive congestion with resulting transudate. The Wassermann reaction in the fluid is negative. The gummatous type appears at a late stage of the disease, but earlier than testicular gummata. Several small nodules from the size of a pea to that of a hazel-nut develop independently of each other in the body or head of the epididymis. The process is chronic and develops insidiously, but may be preceded by a history of injury. The masses are smooth, hard, and quite painless, and only exceptionally break down and rupture externally. Michelson reports seven illustrative cases in patients aged from 2 to 45 years.

[1] Journal of the American Medical Association, 1919, lxxiii., 1431-3.

HYDATID OBSTRUCTION OF THE BILE-DUCT SIMULATING GALL-STONES.

AT a meeting of the Académie de Médecine of Paris on Nov. 11th Dr. F. Dévé reported a case of biliary colic and jaundice due to an unusual cause—obstruction of the bile-duct by hydatids.

A woman, aged 28 years, was admitted to the Hôtel-Dieu, Rouen, on Jan. 21st, 1911. Jaundice appeared in February, 1910, while she was in good health, and was not accompanied by pain. Since that time it had persisted, but varied in intensity. She soon began to suffer from "pains in the stomach," which were often followed by vomiting, but there was neither fever nor rigors. At the beginning of November a typical attack of hepatic colic occurred. In the following weeks seven similar attacks followed, of which three were so severe as to require injection of morphine. On the day after the last attack she noticed in the stool a sort of "bag," resembling a pigeon's gizzard. Her medical attendant, to whom she showed it, thought it was only alimentary débris and searched for calculi. Under the diagnosis of stone in the bile-duct laparotomy was performed on Jan. 23rd, 1911, by an incision through the right rectus. The gall-bladder was opened and found to be distended with sero-purulent, slightly biliary fluid. The bile-duct was also distended and was opened and explored, but no calculus could be found. On the day after the operation an abundant discharge of bile through the drainage-tube began. On the seventh day a hydatid vesicle of the size of a pigeon's egg was discovered on dressing the wound. On three subsequent dressings hydatids were found. The biliary fistula closed in five weeks. On Feb. 21st the patient was discharged from hospital, having gained 3 lb. in weight and the jaundice having disappeared. She was last seen in June, 1919. There had been no recurrence of pain or jaundice, so she could be considered permanently cured.

Among 176 cases of hydatid cysts evacuated by the biliary passages which Dr. Dévé could find recorded there were 54 of prolonged obstruction of the bile-duct. The duration of the obstruction was three weeks to a month in 22 cases, one to two months in 18, two to six months in 9, and six months to a year in 5. Such cases simulate gall-stones, even in the prolonged evolution interrupted by remissions, fluctuations in the intensity of the jaundice, and attacks of colic. Dr. Dévé attributes the colic to passage through the

bile-duct of débris of the vesicles, which are discharged unnoticed in the stools. Sooner or later the obstruction of the bile-duct leads to grave complications—suppurative angiocholitis and cholecystitis, suppuration (often putrid and gaseous) of the original cyst, peritonitis, and empyema. Hence the importance of early operation. To avoid certain errors committed by operators obsessed with the idea of cholelithiasis it is an advantage to make the proper diagnosis before the operation. Analysis of the pain, the character of the jaundice, the evolution of the disease, the age or the sex do not furnish differential elements of any value. The diagnosis can be based only on the following signs —eventual appearance of urticaria after an attack of colic, circumscribed hepatic tumour perceptible by palpation or radioscopy, enlargement of the gall-bladder (present in two-thirds of the cases), eosinophilia and deviation of the complement. A means of diagnosis more important than all is sifting of the stools, which often reveals hydatid fragments. Drainage of the bile-duct has sometimes sufficed for discharge of the cyst, but the surgeon should not trust to this. He should open and drain the original cyst.

THE LAVAL UNIVERSITY OF MONTREAL.

THE destruction by fire on Nov. 24th of the medical department of the Laval University at Montreal has called public attention to the abundant provision for medical study provided in French-speaking Canada. About the middle of last century it was thought timely by the Roman Catholic authorities in the province of Quebec—a province which, as regards its inhabitants, is overwhelmingly French—to establish a university under the direction and control of the Church, much along the lines of the Catholic University of Louvain in Belgium, there being no higher education of university standard for French-speaking students in North America. The difficulty of determining whether the site of this university should be in the old capital of the province, Quebec, or in the larger city of Montreal, was solved by having a single university with faculties in both cities. Last year authority was received from Rome to elevate these two branches into separate universities, and what was until then Laval University, Montreal, became "L'Université de Montreal." The university has its home in a large well-built, seminary-like block of buildings in the French quarter of the city; and it is this building, especially the medical section, that has now been seriously damaged by fire. History repeats itself, for it was in the year 1906 that the medical and engineering buildings of McGill, the larger university at Montreal, were completely destroyed by fire. We may hope that in this case also good will come out of evil, and that out of the ashes of the destroyed medical buildings there will arise an institution designed on more modern lines and better equipped for laboratory work than was the earlier building.

ACUTE STAPHYLOCOCCAL OSTEOMYELITIS TREATED WITH VACCINES.

IN the *Paris Médical* of Oct. 11th Professor Raymond Grégoire gives details of 8 cases of acute staphylococcal osteomyelitis, 6 of which he successfully cured with vaccines unaccompanied by any grossly disfiguring surgical procedure. The remaining 2 cases were, unfortunately, septicæmic and fatal. Professor Grégoire has gained his experience from the vaccine therapy of war wounds, as exemplified by Mocquot, Moulonguet, and Levaditi in France (and, we might add, by Goadby and Shera in this country), and also from the work of Sabouraud and Noiré upon staphylococcal skin infections. On the strength of results furnished by these authorities, Professor Grégoire, when confronted by a typical case of osteomyelitis of the right leg, tried giving 200 million of a stock staphylococcus vaccine.

The swelling involved the instep and extended as far as the middle third of the leg, with a temperature of 102·2° F. and pulse 110, and the patient was a child of 4 months whose condition was not too good. The patient had been ill for six days before the injection. The injection was followed neither by albuminuria nor by pyrexia or appreciable general reaction. Three days later the swelling was much more localised. A collection of pus was aspirated through a needle. Next day a further 200 million staphylococci were injected. Thirteen days after admission the patient was discharged, cured to all intents and purposes. A certain amount of residual thickening was noted at the lower end of the tibia, which remained for some three months. The task of surgical interference was reduced to merely aspirating a little pus. A polyvalent vaccine was used.

The second case was a much more serious one. The whole of the left leg was swollen, especially the lower third. The temperature was 101·3° and the pulse 118. There was a trace of albumin in the urine. This case received 200 million of a stock staphylococcal vaccine, followed in five days by an autogenous dose of 400 million, repeated six days later. Then at two 5-day and one 7-day intervals three doses of 800 million were given. The result was just as good as in the first case.

The other four successful cases were similar. The vaccines were prepared at the Pasteur Institute. Professor Grégoire emphasises the necessity of using stock vaccines made from local strains, which should be available for immediate use. The reactions were best shown by the pulse-rate, even where there was no pyrexia or malaise. The patients ranged from 4 months to 12 years, and the pulse-rate rose by 4 to 40 per minute. The first signs of improvement were shown in the appetite, the facies, the sleep, and the lessened pain. The temperature fell from the second to the sixth day. The local improvement is slowest. On cutting down on an indolent residual mass in one case no pus could be found, but the tissue was soft and resembled actinomycotic tissue. In this modified form of osteomyelitis the absence of sequestra and the presence of residual hyperostosis were constant features. Professor Grégoire rightly remarks that the picture is so different in these cases that they seem to present quite peculiar features, so peculiar and so mild as to make us doubt as to whether we are not dealing with a new disease. To anyone who can safely promise the abolition of those mutilating operations which characterise the modern treatment of osteomyelitis of this kind boundless credit is due. We trust Professor Grégoire's work may be confirmed. It promises well.

THE GROWING-UP OF OTO-RHINO-LARYNGOLOGY.

THE claim of the "special" branches to a place in the medical curriculum has followed much the same course as the relation of the self-governing colonies to the mother country. Growing up almost imperceptibly and long unconscious of their great strength, laryngology and all the other "ologies" now are finding themselves in a position to impose conditions on their parents, general medicine and surgery, whom they have largely

outgrown, and we are in the same need of finding a word to replace "specialism" as we were formerly in regard to the word "colony" when that term became inappropriate to express the autonomous dominions. In our present issue Mr. Herbert Tilley, as president of the Section of Otology of the Royal Society of Medicine, makes a strong plea for the better teaching of oto-rhino-laryngology, urging teachers to impress upon medical students a practical working knowledge of diseases of the ear, throat, and nose, and medical committees of hospitals to make an attendance of three months in the ear and throat department a condition of granting an attendance certificate. Mr. Tilley hopes to see London as a post-graduate centre replacing Vienna, Freiburg, or Paris. Paris has the same aspiration, and a clinique oto-rhino-laryngologique was, in fact, opened this term on an equality with the other medical faculties. Professor Pierre Sebileau, who is in charge of the clinique, made its inauguration the opportunity for an eloquent review of the position of his specialism in France, which appears at length in the current issue of the *Paris Médical*. He records how A. Gouguenheim, returning from Vienna in 1887, started the first oto-rhino-laryngological service, "tolerated but not licensed," in a "narrow dark apartment of miserable aspect" in an annex of the Lariboisière, where Isambert had held the first consultation in 1874. Before his death in 1901 Gouguenheim had obtained two special wards of ten beds each and an assistant, although the practice of the specialty in Paris generally could still be described thus in the amusing words of Lermoyez:—

"Les auristes sondaient, soufflaient avec une patience admirable. Les otites aiguës se traitaient par les injections émollientes, les sangsues et les vésicatoires, et les otites chroniques par l'huile de foie de morue à l'intérieur. La paracentèse du tympan était une hardiesse que quelques thèses s'efforçaient de justifier, j'allais dire d'excuser. Les laryngologistes badigeonnaient, et enlever les polypes du larynx était le grand air de bravoure des ténors de la laryngologie. Le pharynx, terrain banal, appartenait à tout le monde, sauf aux spécialistes, et l'isthme du gosier était comme le rendez-vous de toutes les diathèses. On pataugeait dans le nez; les médecins lui tendaient le siphon de Weber, instrument qui devrait avoir sa statue si la reconnaissance existait chez tous les auristes qui lui doivent une honnête aisance; les chirurgiens le mettaient à sac, effondrant les cloisons et violant les cornets. Heureux les nez qui ne vivaient pas en ce temps-là!"

Professor Sebileau goes on to show how the work of M. J. Moure, of Bordeaux, Castex, Luc, and Calmettes all following in the footsteps of the great Viennese masters, Politzer and Urbantschitsch, and of Zaufal in Prag, raised oto-rhino-laryngology to the position which it holds in Paris to-day.

THE following appointments have been made by the Governor-General of members of the new Council of Public Health for the Union of South Africa: Dr. Charles Porter, Dr. Servaas Meyer de Kock, O.B.E., D.S.O., Dr. Ernest Hill, Dr. David Pieter Marais, Mr. Paul D. Cluver, O.B.E., J.P., Mr. Joseph Henry Nicholson, O.B.E., J.P., and Mrs. Annie Botha. They have been appointed for a period of three years as from July 1st, 1919. The Council of Public Health is established under Section 4 of the Public Health Act, No. 36, 1919, passed in the last general session of the Union Parliament.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

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TUESDAY, NOV. 25TH.

THE address delivered by the PRESIDENT was reported in last week's issue of THE LANCET. At its conclusion Sir Donald MacAlister stated that the inquiries to be held this session into charges made against medical practitioners would be few, as for various reasons the cases were not ready for presentation. Two cases only were heard, and the result in each was the retention of the practitioner's name on the official rolls.

WEDNESDAY, NOV. 26TH.

The Council considered in camera the report of the Finance Committee.

Sir George Newman was appointed a member of the Public Health Committee and an additional member of the Education Committee, and Dr. Macdonald a member of the Examination Committee. Sir Donald MacAlister was appointed to the Examination Committee, and Dr. Matthew Hay takes the President's place on the Public Health Committee.

Relationship of Practitioners to the State.

Dr. J. C. MCVAIL proposed:

That with reference to the resolution adopted by the Council on May 27th, 1916, it be remitted to the Education Committee to make further inquiry as to the instruction which is now being given to medical students on the duties which devolve upon practitioners in their relationship to the State, and on the generally recognised rules of medical ethics, and to report to the next meeting of the Council.

He reminded his hearers that the Council accepted the remission of this subject to the Education Committee in 1906, resulting in the passing of the resolution six months later. He thought the time had now come to learn what the medical schools were doing in the matter. In the four intervening years the relationship of the profession to the State had become increasingly close. An instance was seen in the work of the Pensions Ministry, and it was now laid upon the medical profession to perform the very difficult task of assessing the percentage capacity of claimants. Also the profession had been brought into relationship with the State in respect to the treatment of venereal disease, besides in the work connected with maternity and child welfare. In regard to ethics, the present small penal list was an evidence that the subject was not neglected, but if a revision of the medical curriculum should be arranged, ethics, he thought, should be given a definite place.

Sir T. JENNER VERRALL seconded. It was desirable that people concerned should be reminded of how highly the Council regarded the teaching of ethics in the profession.

Dr. J. V. MACKAY thought the medical schools had been overworked during the war, and his hope had been that this matter might have been left for a year or two longer, to enable the schools to put their house in order after all the disorganisation caused by the war. There were now many new students joining, and there were not teachers sufficient to deal adequately with them.

Mr. THOMSON said that giving effect to the resolution would mean considerable financial expenditure, which some of the schools were not able to bear. He asked whether the help of the State could not be sought to enable the needed instruction to be given.

Dr. MACDONALD thought Mr. Thomson's suggestion would meet with very little support from the profession at large. Answering Dr. Mackay, he considered that the influx of new students constituted a good reason for reminding the schools of the importance of the subjects named in the resolution.

Sir JOHN MOORE said the Council ascertained in 1915 that in most cases ethics and State medicine were dealt with as part of the subjects of forensic medicine and public health. But in a number of instances no regular instruction had hitherto been given. He thought

the present need would be met by the Council communicating again with these latter bodies and receiving a report from them as to their work in the interval.

Dr. LITTLEJOHN pointed out the means by which the necessary knowledge could be imparted, and spoke of the value of the personal character and example of the teacher.

Sir GILBERT BARLING said that at present the authorities at the medical schools were overburdened, and there should be reluctance in adding to their burdens. Every time a request was made for something more to be taught, it meant crowding into five years more than could be properly got in. Ethics, like true education, was rather something which was absorbed rather than taught; its influence, once acquired, remained throughout life.

Dr. ROY DEAN did not believe any two lecturers could include all the subjects now under discussion, and there was a danger in dislocating subjects from their normal environment.

Sir NORMAN MOORE strongly supported the attitude taken up by Sir Gilbert Barling. There were no ethics in the medical profession which were not of universal applicability to the whole human race; and he thought harm would be done to medical education if a special course of medical ethics were insisted upon in the curriculum. There must always be gaps in medical education, however carefully a revised scheme were planned; knowledge was now so vast.

Dr. MATTHEW HAY thought the time had come when there should be separate courses in these two subjects. Medical ethics should, he thought, be taught by somebody actually in practice.

Dr. MCVAIL, in reply, reminded members that his resolution only required that the Council should make itself aware of what was being done during the three and a half years concerned. By inserting the word "further" before "inquiry," he was prepared to make it a continued inquiry, not a fresh one, and in this form it was carried by 16 to 11. Sir George Newman and Dr. McVail were co-opted on to the Education Committee for the purpose of this inquiry.

The Teaching of the Preventive Aspects of Medicine.

Dr. MACKAY presented the report of the Education Committee on the result of its inquiry among teaching bodies as to the organisation of effective teaching in preventive medicine. The number of replies received, 12 out of 41 requests, was disappointing, but he suggested that another notice should be sent defining what was meant by the term "Preventive Medicine," and also enclosing such replies from the teaching schools as had been already received in the hope that this would elicit further replies. The committee therefore could only issue an interim report at the moment, but it was hoped that a complete report might be available next session.

Dr. F. G. HOPKINS said that the reason why no reply was forthcoming from the University of Cambridge was because the University had not entirely understood the questionnaire. The course suggested now would, he believed, result in many more replies being received. It was agreed to circulate the report among the teaching bodies.

Report of the Examination Committee.

Dr. NORMAN WALKER presented the report of the Examination Committee, which recommended (1) that while the Apothecaries' Hall of Ireland should be requested to continue to furnish tables of exemptions from and results of examinations as heretofore; (2) the appointment of a deputy to attend the examinations at the Hall on behalf of the Council should be postponed. He explained that this latter course was recommended in view of the early resumption of visitation and inspection at all Final Examinations. The recommendations were agreed to, and Dr. MAGENNIS, on behalf of the Apothecaries' Hall, expressed his acknowledgments. A third recommendation of the committee was agreed to—viz., that the Council would welcome further communications from the licensing bodies showing how far their regulations accord with the expressed views of the Council upon the teaching of ophthalmology.

The Inspection and Visitation of Qualifying Examinations.

The PRESIDENT presented a report from the Education and Examination Committees conjointly on the inspection and visitation of qualifying examinations. The Joint Committee invited the Council to resume these early in 1920, and to remit to the Executive Committee the making of the necessary arrangements and the appointment—after receiving suggestions of suitable names from members of the Joint Committee—of three inspectors in medicine, surgery, and midwifery respectively for a period of two years in the first instance. The President added that it was necessary that some discretion should be given to the Executive Committee in this matter, as if the subject were allowed to wait until next session it would be too late to begin visitation and inspection until another academic year. The members of the Council would in due course be invited to act as visitors.

The report was adopted.

Report of the Public Health Committee.

Sir JOHN MOORE submitted a report on various matters submitted to it.

A letter replying to the Admiralty Medical Department had been drafted, declining to shorten the period specified in Rule 1 of the Rules and Regulations of the General Medical Council, but suggesting that the Department should draw up a syllabus of the laboratory instruction proposed to be given at the Royal Naval College, Greenwich, and submit this to the licensing bodies granting a Diploma in Public Health; also recommending the Admiralty to grant nine months' study-leave to those who desired to become possessed of this diploma.

The report and proposed letter were agreed to.

The Teaching of Midwifery.

Dr. MACKAY presented a report by the Education Committee having special reference to the teaching of midwifery, particularly in London. He alluded to the receipt of a document reviewing the whole subject from the Obstetrical Committee of the Royal Society of Medicine, which would require very careful consideration. But first he thought it should be ascertained how far the schools had been able to carry out the recommendations of the Council of 1906. He proposed the reception and adoption of the report.

Sir FRANCIS CHAMPNEYS seconded. He said he was asked by the Royal Society of Medicine to bring this subject before the Council. It was a matter of extreme importance. Up to the present time midwifery had been rather a Cinderella in medical education, but it had recently come into greater prominence on account of the increased interest in public health questions. But while medicine and surgery dealt with abnormalities, midwifery was concerned with the ordinary entry into the world, and grouped round itself antenatal care, post-natal care in regard to both mother and child, and hence was at the foundation of the health of womanhood itself. He did not think a satisfactory solution of the difficulty of teaching midwifery to medical students would be found short of introducing them to the subject in wards of a thoroughly equipped lying-in hospital. There were not at present enough such hospitals available, and the building and equipping of additional ones would mean enormous expense. Moreover, the present diminished birth-rate meant a scarcity of teaching material, a difficulty which must be faced. The whole medical curriculum would have to be reconsidered, and it was possible that each medical school would have to be remodelled. Such subjects as lunacy and fevers could not be taught in the medical school, and it seemed that there would have to be some central building around which all the professional teaching could be coördinated. The lying-in hospital for teaching purposes must be of a certain size, otherwise there could not be a proper rota and succession of cases; and for each medical school in London to have its own lying-in hospital would be a wasteful arrangement. And such hospitals should be placed not so that they would be convenient for practitioners to attend, but where they would best serve the needs of the general population. Nowadays midwifery

did not attract the attention it deserved; operative gynæcology and abdominal section had rather cast midwifery into the shade. If Britain was to hold her own in midwifery she must have professorships of midwifery, which would attract men of high eminence in this branch. The document which the proposer had referred to was a carefully thought-out one, and though it related specifically to London, its application was very wide. He concluded by remarking that the medical curriculum could not be indefinitely prolonged without making it very unattractive; and unless the emoluments of the doctor were improved, people choosing a life's profession would go to other fields.

The motion was agreed to.

Sir NORMAN MOORE presented the report of the Pharmacopœia Committee. It was seconded by Sir JOHN MOORE, and agreed to.

Students' Registration Committee.

This was presented by Sir NORMAN MOORE, and agreed to.

Dental Education and Examination Committee.

Sir CHARLES TOMES, in submitting this report, reviewed the conditions obtaining in regard to dentists practising in the colonies and foreign countries.

Sir JOHN MOORE seconded the proposal for its adoption, and it was carried.

The proceedings terminated with the usual motions concerning the dealing with urgent business in the interval until the next session, and a cordial vote of thanks to Sir Donald MacAlister for presiding.

HIGHER QUALIFICATION IN OPHTHALMOLOGY.

IN the early part of this year the Council of British Ophthalmologists issued a report, which appeared in THE LANCET of April 5th, on the teaching and examination of medical students in ophthalmology. A further report has now been prepared on the desirability of a special qualification in ophthalmology.

Existing Conditions concerning Examinations in Special Subjects.

At present there are, the report states, in the United Kingdom special examinations in Dental Surgery, Public Health, Tropical Medicine and Ophthalmology. These examinations may be classified in two groups:

(*a*) Those in which the special subjects form part of a higher examination in medicine or surgery—e.g., Tropical Medicine; State Medicine; Ophthalmic Surgery; Aural, Nasal, and Laryngeal Surgery; and Dental Surgery for the M.D. or M.S. of the University of London: Ophthalmology; Aural, Nasal, and Laryngeal Surgery; Advanced Midwifery with Obstetric Surgery and Gynæcology; Advanced Anatomy; and Dental Surgery for the Fellowship of the Royal College of Surgeons, Edinburgh.

(*b*) Those in which qualified medical men are examined in a special subject, independently of any examination in general medicine or surgery—e.g., for the Diploma in Public Health, University of Cambridge; the Licence in Dental Surgery, Royal College of Surgeons, England: and the Diploma in Ophthalmology, University of Oxford.

Examinations in Ophthalmology in the United Kingdom and in America.

The first examination in ophthalmology as a special subject was established by the Royal College of Surgeons of Edinburgh in 1883. In the examination for the Fellowship ophthalmology is included in the list of special subjects, of which one must be taken. The diploma granted bears no indication of the special subject in which the candidate was examined.

At the *University of London* ophthalmology has recently been recognised as a special branch of the M.S. degree under the following conditions, the candidate having to submit evidence of having spent at least two years in the study and practice of ophthalmology at a teaching school or schools approved by the University one year at least subsequent to obtaining the M.B., B.S., and of having held during this time for at least six months an appointment in the ophthalmic department of a recognised general hospital or ophthalmic hospital. The examination includes two papers in ophthalmology, one in the principles of surgery, a clinical examination, one paper in the anatomy and physiology of the eye, one paper in the pathology of the eye, and an oral examination.

At the *University of Oxford* a diploma in ophthalmology (D.O. Oxon) was instituted in 1910. Candidates must have their names on the Medical Register, or being foreign graduates have obtained special permission from the Board of the Faculty of Medicine. Candidates are required to certify a year's attendance at a course of clinical ophthalmology for 12 calendar months in connexion with hospitals or institutions recognised for the purpose by the Board of the Faculty of Medicine as well as a practical study of the anatomy of the eye, and of physiological optics in the University of Oxford. The subjects of the examination are dioptics, diseases of the eye, ophthalmology in general medicine, clinical cases, and ophthalmic surgery.

In the *University of Liverpool* a diploma of ophthalmology was instituted, but is not now granted.

At the *University of Colorado* a degree of Doctor of Ophthalmology was inaugurated in 1913. Evidence is required of graduation at a standard medical school, and of a preliminary education covering high school algebra, geometry, plane trigonometry, and elementary optics. Secondly, of one year of clinical work in ophthalmology of 300 days at two hours per day; as interne, clinical assistant, post-graduate student, assistant in private practice, singly or in combination, plus one or more summer courses in ophthalmology at the University. The candidate must pass an examination, written, oral, microscopical, and clinical; and submit an original thesis, with an examination thereon. The course is planned to fill the time of two scholastic years, and consists of optics, histology, pathology, ophthalmology, and operative surgery.

At the *University of Minnesota* the degree of Doctor of Ophthalmology has been instituted on similar lines, but all the work is expected to be done in the University.

Qualifications Required by Hospitals for the Post of Ophthalmic Surgeon.

A circular letter was sent to all the principal hospitals in the United Kingdom asking what professional qualifications were required of candidates for the post of ophthalmic surgeon. Replies were obtained showing that 17 required the Fellowship of the Royal College of Surgeons, England; 5 the Fellowship of the Royal College of Surgeons, Edinburgh; 4 the Fellowship of the Royal College of Surgeons, Ireland; 2 the degree of Master of Surgery of a University or the Fellowship of the Royal College of Surgeons, England; 8 a medical degree of a University or the Fellowship of one of the Royal Colleges of Surgeons of the United Kingdom. (Three of the last group will accept the Membership of the Royal College of Surgeons of England.) Eighteen do not require any special qualification.

The following five hospitals require evidence of special training in ophthalmology: Belfast Ophthalmic Hospital, two years; Central London Ophthalmic Hospital, two years; Royal Westminster Ophthalmic Hospital, two years; Western Ophthalmic Hospital, two years; Liverpool Eye and Ear Hospital, six months. Under present conditions the degrees or diplomas which candidates for the post of ophthalmic surgeon to the principal hospitals in the United Kingdom must hold, while they testify to proficiency in general medicine and surgery, furnish no evidence of special knowledge of ophthalmology.

Desirability of a Special Examination in Ophthalmology.

In the higher surgical examinations as at present conducted there is seldom any adequate test of a candidate's knowledge of ophthalmology. The examiners are general surgeons who are not thoroughly conversant with the subject, and there is, therefore, a natural tendency on the part of the student to devote insufficient attention to this branch of surgery. Formerly the

examining boards included a proportion of surgeons who practised as ophthalmologists, and in consequence the subject was more frequently and adequately dealt with.

The importance of ophthalmic knowledge and experience in relation to the welfare of the population is now widely recognised. The large and increasing number of appointments for which such knowledge and experience are required renders it essential that candidates for these posts should be able to show, not only that they have gone through a satisfactory course of training in ophthalmology, but that they have attained a certain standard of proficiency, as tested by examination. The practice of ophthalmology must be based upon an accurate knowledge of the anatomy and physiology of the visual organs, optics, and the pathology of the eye. The establishment of a special examination in ophthalmology would ensure that candidates have been adequately trained in and possess a sufficient knowledge of these subjects. It would at the same time be an incentive to the special hospitals to provide increased facilities for instruction. The close relationship of ophthalmic to general surgery renders it imperative that those who propose to practise as ophthalmic surgeons should possess a sound knowledge of the general principles of surgery, pathology, bacteriology, &c., and of their application to the surgery of the eye, orbit, and surrounding structures. The Council therefore hold that an examination in ophthalmology should form part of the examination for a higher degree or diploma in surgery, as is now the case at the University of London and the Royal College of Surgeons, Edinburgh, rather than that there should be a special examination in ophthalmology alone.

If such an examination is adopted it is desirable that it should be definitely stated that the degree or diploma is granted in ophthalmology. The Council are of opinion that every candidate before presenting himself for examination should be required to produce evidence that he has studied ophthalmology during a period of two years, of which one has been spent in holding recognised ophthalmic appointments.

Conclusions and Recommendations.

The report concludes with the following recommendations:—

1. It is desirable that the Universities and Colleges in the United Kingdom should make provision for a special examination in ophthalmology for those who propose to devote themselves to this branch of medicine.

2. It is desirable that ophthalmology should be one of the optional subjects in which a candidate can elect to be examined for the degree of Master of Surgery of a University, or for the diploma of Fellow of a Royal College of Surgeons, as is at present the case at the University of London and the Royal College of Surgeons, Edinburgh.

3. Before presenting himself for such an examination the candidate should furnish evidence of at least two years' study of ophthalmology, one of which has been spent in holding recognised ophthalmic appointments.

4. The special examination in ophthalmology should be written, oral, and practical, and should comprise the following subjects: anatomy, pathology, optics, systematic and clinical ophthalmology, and operative surgery.

ROYAL COLLEGE OF SURGEONS OF ENGLAND:

ANNUAL MEETING OF FELLOWS AND MEMBERS.

THE thirty-second annual meeting of the Fellows and Members was held at the College on Nov. 27th, Sir GEORGE MAKINS, the President, being in the chair.

Annual Report.

The PRESIDENT presented the annual report of the Council, and referred to several of the items. He mentioned that the Committee of Reference, which had been appointed to assist the Minister of National Service, had held 114 meetings, and though the duties of the committee had now terminated so far as mobilisation and demobilisation were concerned, their functions as a tribunal of appeal continue in force until the repeal of the Military Service Acts. Next he described the work of the Ministry of Health Committee and the formation of Consultative Councils in connexion with the Ministry of Health; and he mentioned the part the Council of the College had taken in suggesting persons for the Consultative Council on Medical and Allied Services. References were also made to the scarcity of subjects for instruction in anatomy and for examinations, to the Special Military Surgical Hospitals, and to the Special Primary Fellowship Examinations, instituted for those whose studies have been interrupted by the war.

Various questions were then asked by Members on the matters mentioned in the report.

Dr. SIDNEY LAWRENCE wished to know how many of the names on the list of those recommended by the Council for the Consultative Council on Medical and Allied Services had been selected by the Minister of Health. The President said that only the name of Mr. Victor Bonney had been selected by the Minister. Dr. Lawrence also inquired if any of the alien Honorary Fellows had been removed from the roll of Honorary Fellows. He was told that no names had been removed.

Mr. DENNIS VINRACE inquired why only the names of those Fellows and Members of the College who had died in connexion with the war had been printed in the report, and not the names of all Fellows and Members deceased during the war.—The PRESIDENT replied that he thought it was a pity that these names had been omitted, but it had been found necessary to keep the report as short as possible.

Resolution in Support of Direct Representation.

Dr. BRINDLEY JAMES then brought forward the first resolution:—

"That this thirty-second annual meeting of Fellows and Members again affirms the desirability of admitting Members to direct representation on the Council of the College, which as now constituted only represents those Members who also hold the Fellowship; and that it does so in order that the constitution of the Council of the Royal College of Surgeons of England shall be in keeping with modern ideas of true representation."

He pointed out that this resolution had been passed year after year for more than 30 years, and yet nothing had been done. During the war many members had held responsible positions as surgeons in the army and had done a large number of major operations; they had also proved themselves excellent in diagnosis; many of them had rendered most distinguished service, and it was clear that they had shown themselves to be fully competent to take their part in the government of the College. It must be remembered that the Members existed before the Fellows, and then all hospital posts were held by Members. The Members claimed a share in the business work of the College. The relation of the profession with the lay public was surely as much a matter for the Members as for the Fellows.

Mr. J. W. COLLINGWOOD seconded the motion. He said that at the present time there had been much talk of memorials to celebrate the peace, but he thought that there could hardly be a better memorial so far as the College was concerned than to inaugurate a new era by the giving to the Members of the College some share in the government. He asked it also on the ground of natural right; at one time the Members were the College, and they should never have been deprived of the rights they then enjoyed. The presence of a few Members on the Council would infuse into it an appreciation of its relation to practical questions. He asked the Council to take the matter into its serious consideration.

Mr. VINRACE supported the motion. The present tendency to democratic representation should be shown in the constitution of the Council. He urged that the request of the Members was very moderate, and he hoped that the Council would not always be indifferent to the claims of the Members.

The motion was also supported by Colonel J. G. FITZGERALD, who maintained that the College must be brought into unison with other public bodies.

When the motion was put to the meeting 27 voted in favour of it and none against, so that it was carried *nem. con.*

A Second Resolution.

Dr. M. I. FINUCANE proposed the second resolution:—

"That as the College of Surgeons of England is composed of about 17,000 to 18,000 persons, of whom the great majority are engaged in general practice, the annual meeting requests the President and Council to nominate at least two Members in general practice to represent the interests of general practitioners in the management of College affairs."

He thought that the proposed change might need a new charter, though it might be possible for the Council to coöpt some Members into the Council, but whatever was needed should be done, for at present the government of the College was either a despotism or a bureaucracy, and whichever it was it must come to an end. These methods of government survived only in a few misguided bodies. The report itself showed that the Council was not doing much work that needed to be done; even the Fellows, though they had the franchise, did not take the trouble to vote, for the report showed that only 673 Fellows voted at the election of Members of Council. He claimed that the College needed the support of the Members, and that at present this could not be given while the Members were ignored. He closed with a personal appeal to the President to assist in the carrying out of this much needed reform.

Mr. R. DUNSTAN seconded the motion, and pointed out that this was meant to be a practical method of carrying out the first resolution. The greater the approach to the methods of trade-unionism the better, for the democratic spirit of the age must be recognised. If the Council did not reform itself the time was not far distant when it would be compelled by Parliament to change the constitution of the College.

Dr. R. R. ROACH complained of the silence of the Council in face of the repeated carrying of this resolution at every annual meeting. A few years ago the then President stated that there were three functions of the College—the care of the Museum, the care of the Library, and the conducting of examinations. The Members take a broader and a nobler view of the functions of the College. The Council should state the reasons why they had failed to support the just rights of the Members. The lapse of time since the removal of the Members' rights did not do away with those rights; an injustice was not removed by the mere lapse of time.

When the resolution was put to the meeting it was carried *nem. con.*

Dr. A. KEPPEL BARRETT then brought forward the third resolution:—

"That the President is hereby invited to make a statement to this meeting as to the views of his Council on the subject of the second resolution."

He remarked that there was no need for a speech, as all the meeting wanted was a clear answer on the subject of the second resolution.—Dr. LAWRENCE seconded.

The President's Reply.

The PRESIDENT said, in reply, that it was utterly impossible for him to forecast what the Council might say at their next meeting, when the resolutions carried would be discussed. The main function of the College was, as the charter expressed it, the promotion of surgery. Although the College was originally founded as a City Company, like all the City Companies it had nothing to do at the present time with the advancement of the material benefits of those connected with the occupation denoted by the title. He would lay the resolutions before the Council and they would consider the matter carefully.

A vote of thanks to the President for presiding terminated the proceedings. There were present 14 Fellows, including 8 members of the Council, and 30 Members.

Correspondence.

"Audi alteram partem."

THE PREVENTION OF VENEREAL DISEASE.

To the Editor of THE LANCET.

SIR,—As one of a group of four who first projected the foundation of the National Council for Combating Venereal Diseases, may I be allowed a word on this controversy, which I look upon as most unnecessary and unfortunate. When we drew up the regulations of the society care was taken to avoid suggesting that means should be adopted to prevent infection. For this reason the term "prevention," first employed, was changed to "combating." In lecturing to the troops in 1914 I with others wished to circulate printed instructions, and even to advise the use of preventives, as already recommended by the Navy. This was considered unwise by the Director-General.

The Teaching of the National Council.

The National Council has continued its policy, and no one will deny the great work that it has accomplished in educating the people as to the diseases, and in promoting the establishment of treatment centres. The whole burden of the teaching has been, while pointing out the dangers, to insist upon treatment at the earliest possible moment. This moment is obviously immediately after the act provided the means can be obtained. The National Council recommends the use of soap and water as soon as possible—i.e., presumably before the man has dressed. Could this be carried out universally, especially with soft-soap, everyone will agree that we will have advanced a long way on the road to prevention. In the room of a private house, or in a well-equipped brothel—which no one wants to encourage—such cleansing is possible, and is, no doubt, frequently carried out. But looking to the circumstances under which sexual indulgence takes place for the most part, is even the use of soap and water possible—are the materials available? To be efficient all such applications, whether soap and water—the best of disinfectants if fully used—or some medicinal substance, should be employed before the clothing is replaced, otherwise the liability to secondary infection not only of the individual, but of others who may handle the linen becomes possible. I have seen a laundress so infected.

False Security.

It has been abundantly established that infection is spread, so far as women are concerned, chiefly by the clandestine, and these often posing as semi-virtuous give a false security to the man. A man once told me that infection was impossible because of the lady. Such simple belief in women has led to much trouble, especially among the Dominion troops, far removed from female society of the good sort. Observations recently published showed that while some 300 odd paid for the disease, nearly twice that number obtained it as a free gift. That is the point—for such cohabitation must take place in all sorts of out-of-the-way corners where even soap and water are not available.

A Logical Step.

Is it not a logical step from soap and water in a brothel or a private room, either that of the woman or the man, to the carrying of the means, so that immediate cleansing to some degree can be applied? I am afraid the National Council has pointed a way which any reflecting person will pursue and naturally take means to apply the remedy—for remedy soap and water becomes, whatever may be said—as soon as possible. Why, therefore, shrink from the very natural consequences of the spread of knowledge? The new society for "prevention" advocates immediate personal disinfection, and for this purpose, where means are not available, the man should carry sufficient soap and water or solution with him. The objection is obvious from the moral side, for such advice tends to organise vice. The man sallies forth for a purpose; his day has

come round. This view is not lost sight of by the promoters of the Society for Prevention equally with those of the National Council. There is no difference in the moral outlook at all, and it is wrong to charge those who advocate the logical outcome of our teaching with moral obliquity.

Difficulties of Medical Inspection.

Consider the present opportunities for medical treatment. The infection occurs between 9 P.M. and midnight, medical advice is not available before 9.30 A.M., and cannot then be sought because one has to be in an office at 9 o'clock and another at his work by 7 o'clock. Advocates of the "prevention," as far as I gather, urge early medical inspection just as strongly as the National Council, the chief point being to examine for any abrasion. Theoretically everyone should be inspected after exposure, and this state of perfection may come, though at the present stage all must see the difficulties and the unavoidable delays with regard both to private practice and the public service. Meantime disease is rampant, and any means that will check its spread is surely justified.

Conclusion.

In conclusion, let the National Council pursue its advocacy of education and early treatment, without opposing the campaign of others who are out to attack disease and disease alone. If the National Council cannot bless why should it curse? It was a fundamental principle in founding the National Council that the great objects were to spread a knowledge of these diseases and to advocate early voluntary treatment. The purely moral side was not to be made a conspicuous plank in the programme. The sense of security following a medical inspection must be surely greater than that after the personal use of simple measures. The best course, it seems to me, is for the National Council to carry on its own work in its own way, if it cannot adopt what after all is, as I have said, the logical outcome of its own teaching. That carrying with him the means of self-disinfection encourages indulgence is a question for debate. I imagine a large number are surprised into the act, and tempted by the false security of the clandestine.

I am, Sir, yours faithfully,

CHARTERS J. SYMONDS.

Portland-place, W., Nov. 26th, 1919.

To the Editor of THE LANCET.

SIR,—We hoped that our letter to the *Times* of Oct. 13th had made it quite clear that we advocated *immediate* self-disinfection with disinfectants carried on the person (in outfits, parcels, packages, bottles, packets, or whatever word may be used), but that we did not suggest a free issue of such outfits of disinfectants by the Government or local authorities, but considered that such disinfectants should be purchasable by the individual at the local chemist. In the press generally we have insisted that time is the vital factor, and that self-disinfection should therefore be carried out *immediately*, and that this can only be done if the individual provides himself with, and carries with him, the necessary disinfectants. Apart from letters published in the press, official communications have passed between the President of the National Council for Combating Venereal Disease and the President of the Society for the Prevention of Venereal Disease, in which we made it abundantly clear that we consider it essential that these disinfectants should be carried on the person.

The National Council for Combating Venereal Disease, whilst acknowledging the great importance of disinfection within an hour of exposure to risk, yet illogically are opposed to the only method by which disinfection in the majority of cases can be carried out within the hour after exposure. Dr. Douglas White, in his letter appearing in your issue of Nov. 22nd, publishes a memorandum issued by the National Council for Combating Venereal Disease, stating their policy in regard to the prevention of venereal disease. Clause 8 of the memorandum states "No one should be urged to arm himself in advance with a prophylactic packet." Mr. E. B. Turner's statement that "Colonel L. W. Harrison is quite able to explain his change of opinion and defend his statements" is only an expression of his own views, and does not advance the controversy. What appears desirable is that Colonel Harrison also should state his exact position in regard to immediate self-disinfection. In a lecture delivered at the Royal Institute of Public Health, published in this year's January number of the *Journal of State Medicine*, Colonel Harrison says: "I am sure that our greatest hope of extirminating venereal disease lies in the breaking of the chain of infection at the male end, where the handicap is distinctly in our favour"; and he quotes statistics issued by the Naval Station, Norfolk, Virginia, showing that of 1180 persons disinfected within one hour of exposure to infection there was no case of venereal disease; whereas, in 1172 similar cases disinfected between one and two hours after exposure 0·59 per cent. of cases of infection occurred; while after an interval of between four and five hours, the numbers rose suddenly to 1·57 per cent. Colonel Harrison also quotes from a report of Major Falconer Brown, N.Z.M.C., showing how in one troopship where the men undertook early disinfection, there was not a single case of venereal disease, although the average in such troopships was 15 cases per voyage. Colonel Harrison concludes by saying: "The ideal method is undoubtedly that in which the man submits himself to treatment by a skilled attendant within an hour of exposure, but promptitude is vitally necessary to success, and if the man is situated where he cannot obtain skilled assistance, *he should have the means of self-disinfection with him* (my italics). I hope that before that army is demobilised we shall have taught it by successful early treatment how to protect itself against venereal disease." No member of the Society for the Prevention of Venereal Disease could express a more definite opinion in favour of immediate self-disinfection than as recorded above in Colonel Harrison's words.—I am, Sir, yours faithfully,

H. WANSEY BAYLY,

Hon. Sec., Society for the Prevention of Venereal Disease.
143, Harley-street, W., Nov. 22nd, 1919.

To the Editor of THE LANCET.

SIR,—Sir Bryan Donkin has dignified my article in THE LANCET of Nov. 8th with a criticism in your issue of Nov. 22nd. I do not intend to complain of the various brickbats which he throws at me, some of which, at least, are undeserved. But on one point I feel that a reply is necessary. Sir Bryan Donkin says that my argument is "directed all along ..... to showing that the advocates of prompt personal disinfection deny that there is any immorality attaching to sexual promiscuity." I beg to state that I never attempted to show any such thing, nor do I make any such charge against the advocates of personal disinfection. Among the members of the Society for the Prevention of Venereal Disease there are some whom I have long respected as my teachers, and whom I reckon in some degree as my friends; others also whose names I hold in too high esteem to befoul with silly and groundless aspersions. I do indeed believe (rightly or wrongly) that a campaign solely or mainly directed towards instruction in prophylaxis would tend to increase exposure, and probably to increase instead of diminishing disease. With this belief the advocates of such a campaign do not agree. It is not a question of their morality or mine; it is simply a question which of us is right. Such a clash of opinion is not new. Among the supporters of the C.D. Acts were numbered men of the highest character. In spite of the very grave social questions involved, they were persuaded that the C.D. Acts would result in a very great reduction of venereal disease in the services. The results did not justify this hope; but their characters were not to be called in question on account of their belief. Much less is there any reason why the moral sense of believers in prophylaxis should be called in question on account of their views.

I hope, Sir, that you may find room for this disclaimer, as I should feel very sorry if any members of

the Society for the Prevention of Venereal Disease or others should be led by Sir Bryan Donkin's letter to believe that I had made the aspersion on their moral outlook that he alleges.

I am, Sir, yours faithfully,

Harrow, Dec. 1st, 1919. DOUGLAS WHITE.

KINEPLASTIC AMPUTATIONS.

To the Editor of THE LANCET.

SIR,—My attention has been called to a sentence in the report, in THE LANCET of Nov. 22nd, of the annual meeting of the British Orthopædic Association, which exactly reverses the meaning of what I said, and I ask a few lines of space to correct it. The report has it that "orthopædic surgeons must solve the surgical problem and leave the mechanical problems to the engineers." What I did in fact say was that, while the solution of the surgical problem must come first, to afford material for the mechanician to work on, it was essential, in my opinion, that the application of the forces produced should be carried out with the close coöperation of the surgeon who brought them into being, and that this was an essential condition of success.

May I add one word more concerning the annotation in THE LANCET of Nov. 29th, giving Professor Pelligrini's tunnel technique? The methods are not new; I saw them, with the same illustrations, in the *Archives Médicales Belges* of June, 1918, and I do not think they were new then. They are easy—fatally easy—to carry out, but in the opinion of most of those who are working at the subject in England should only be used in those rare cases (if at all) where other methods are not applicable, and I think it would be wrong to let them be published in so widely read a journal as yours without a word of caution.

I am, Sir, yours faithfully,

M. FITZMAURICE-KELLY,
Major, R.A.M.C.

Pavilion General Hospital, Brighton, Nov. 29th, 1919.

EXTENSION OF PART II. OF THE MEDICAL ACT TO ALBERTA.

To the Editor of THE LANCET.

SIR,—I have to inform you that Part II. of the Medical Act, 1886, has been extended to the Province of Alberta, and that I have been directed as follows:—

(*a*) "That any person who holds the Licence (or Membership) of the College of Physicians and Surgeons of Alberta, granted after examination in Medicine, Surgery, and Midwifery by the University of Alberta, together with the Licence to practise in the Province, shall be entitled to be registered in the Colonial List of the Medical Register, provided he satisfies the Registrar of the General Medical Council regarding the other particulars set forth in Part II. of the Medical Act, 1886";

"and (*b*) to direct the Registrar to register in the Colonial List of the Medical Register any person who holds the Licence (or Membership) of the College of Physicians and Surgeons of the North-West Territories, obtained after examination in Medicine, Surgery, and Midwifery, together with the Licence of the College of Physicians and Surgeons of the Province of Alberta (both facts to be certified by the Registrar of the College of Physicians and Surgeons of Alberta), provided he satisfies the Registrar of the General Medical Council regarding the other particulars set forth in Part II. of the Medical Act, 1886."

I am, Sir, yours faithfully,

NORMAN C. KING,
Registrar.

General Council of Medical Education and Registration of the United Kingdom, 44, Hallam-street, Portland-place, London, W. 1, Nov. 28th, 1919.

Corrigendum.—In the letter of "Irish Practitioner" in THE LANCET of last week, "Sept. 21st" (13 lines from the end), should read *Nov. 21st.*

THE Harben lectures of the Royal Institute of Public Health for 1920 will be delivered in June by Professor Maurice Nicolle, M.D., of the Pasteur Institute, Paris.

Medical News.

DR. ADDISON AT MANCHESTER.—The University of Manchester some time ago arranged a short course of public lectures for this term on some results of experience gained in various fields during the war. The lectures are delivered in the new arts building in Lime Grove, and the entrance fee is nominal. Dr. Addison, the Minister of Health, visited Manchester on Monday evening, Nov. 24th, and lectured on Some Results of Experience gained in the Field of Medicine during the War. The first Labour Lord Mayor of Manchester, Alderman Tom Fox, occupied the chair. Dr. Addison showed how much more the people of this country valued research work than they did in pre-war times, and considered that this change of attitude would completely alter the nation's methods, thought, and action in the years to come. Dealing with the difficulty in showing that expenditure on preventive work had been justified, he instanced the case of T.N.T. poisoning, in which research work had cost £2000 to £3000. When he was at the Ministry of Munitions many thousand pounds a week were being paid in compensation to sufferers from this disease, but in 18 months it had disappeared from the factories, and the total cost of the research was saved every week for 100 weeks. The speaker next referred to the prevention of disease among the armies in the field, dealing first with the treatment of shock, and then with the practical elimination of cerebro-spinal fever. The same team of workers was now working at pneumonia. A sum of a million spent in research on influenza and pneumonia would be as nothing compared with the loss to the country from these diseases during the last 12 months. A comparison of the typhoid casualties in the South African War and the European War followed. To a medical audience these figures are by this time familiar enough, but to a lay audience they are more impressive than any other example could be, and show the rise and improvement of preventive inoculation in the intervening period as no other statistics will. If the incidence of typhoid in this war had been the same as in the South African we should now have in the country 350,000 men who had had typhoid whilst serving, whilst in point of fact we had only 7000. The war brought home to us the vast numbers of the mentally afflicted who were curable if treated early enough, without any question of certification. The prevention of diseases of the period of development, such as rickets, were next mentioned, the Minister of Health saying that these wanted much further study, while industrial methods must be inquired into from the health standpoint. The number of hours to be worked profitably by workers at different occupations was a purely scientific proposition which had to be worked out. But if the right sort of worker was to be secured, and the best work was to be done, the scientific worker must be paid properly; and they were not losing sight of that at the Ministry of Health.

UNIVERSITY OF LIVERPOOL.—At the meeting of the University Court held on Nov. 28th Dr. J. G. Adami, the new Vice-Chancellor, delivered a most interesting address. He pointed out that in 1913-14 the University had the largest entry of full-time students—in all 1178—that it had ever known. That record had been far surpassed by the number of entries this session, which already amounted to 2470, and many more had had to be turned down for lack of room. The Vice-Chancellor said he did not regard this increase as a merely accidental outcome of the war. He considered it as a proof that we are at the beginning of a new era, when the value of a university education will be assessed at its proper worth in every walk of life. He prophesied that if the University adequately discharges its duty, in a score of years the 2470 students will have become 5000. This sudden expansion in the number of entrants has thrown a tremendous strain not only upon the professors, but upon the available accommodation, for the buildings and plant of the University are not half large enough to meet the present needs. As a consequence classes had to be duplicated and even triplicated, and in the class of physics each practical course of two hours for the first-year men had to be repeated 11 times. In the chemistry department the overcrowding was equally serious. The first-year practical class-room, built in 1880, has accommodation for 50 students. There were 300 first-year students studying chemistry, and in addition 350 students of engineering who also required training in practical chemistry. Increased laboratory space was therefore needed in subjects of such direct practical and industrial importance as physics, chemistry, and electrical engineering, as well as for their schools of commerce, architecture, and social science. As a temporary expedient they had filled the quadrangle with army huts and were roofing over courts here and there to supply laboratories and drawing

halls; besides making use of ordinary terrace houses adjacent to the University. More professorships were required, and new endowments were needed for their chairs. Bucolic Ontario, with a population of 3,000,000, boasted more universities than industrial Lancashire with its teeming cities. Within the next few years the University of Liverpool would require £1,000,000 if it were to be in a position satisfactorily to grapple with the new conditions. Early in 1920 he intended to make a public appeal for £500,000. The figure might appal his audience, but he had no hesitation in asking for that large sum, which he regarded as absolutely necessary, and he was confident that he would not appeal in vain to a city whose inhabitants had heretofore given, with notable generosity, a hearty and discriminating support to works for the public good.

PARASITOLOGICAL RESEARCH AT CAMBRIDGE.—At the request of Lady Strathcona the representatives of the late Lord Strathcona have sent £1000 to Professor Nuttall for the Institute of Parasitological Research at Cambridge. The money was promised by the late Lord Strathcona if and when a fund for a field laboratory on the outskirts of Cambridge should reach £6000.

THE WELSH NATIONAL MEDICAL SCHOOL, CARDIFF.—The first part of the new buildings in Newport-road—the physiological block—has been completed and brought into use this term. It provides what are probably the finest physiological laboratories in the kingdom; and its opening has done something to relieve the congestion of the class-rooms. Other portions of the new medical school are under construction, and the accommodation will be urgently needed when the full curriculum of teaching, including clinical work, is undertaken in the near future. Already the new block, originally criticised as being unnecessarily large, is overcrowded and classes have to be duplicated. There were nearly 100 new students joining this term. The new professor of preventive medicine, Dr. E. L. Collis, is announced to deliver his inaugural lecture on Dec. 10th.

At the annual meeting the announcement that H.R.H. the Prince of Wales had accepted the office of patron of the Medical Students' Club and a metacarpal bone (the badge of the club) in gold, was received with acclamation. A christening bowl was handed to Lady Thomas, the wife of Sir W. J. Thomas, president of the club, on behalf of her son, born during her husband's term of office; and a silver bowl was presented to Professor Haycraft on the occasion of his marriage.

UNIVERSITY OF SHEFFIELD.—The Faculty of Medicine, like other faculties in the University, has to record a large increase in the number of its entries this autumn, and the question of their accommodation is occupying the careful consideration of the University authorities.—Mr. Arthur Connell, F.R.C.S. Edin., senior surgeon to the Royal Infirmary, has been appointed professor of surgery, in succession to Dr. Sinclair White, who resigned the post earlier in the year.—Two lecturers in Medicine, Dr. A. E. Barnes and Dr. A. E. Naish, and two lecturers in Surgery, Mr. A. W. Cuff and Mr. Graham Simpson, have also been appointed to assist the respective professors.—The dental department in connexion with the faculty, after being temporarily in abeyance owing to its hospital premises being taken over by the War Office for military dental work, has again resumed its full war activities. Mr. Percy Stokes, L.D.S., has been appointed honorary secretary of the dental staff.

VOLUNTARY HOSPITALS IN SHEFFIELD.—A movement has recently been set on foot to bring the four voluntary Sheffield hospitals into closer union. With this object a Joint Advisory and Consultative Hospitals Committee has been formed, with the Lord Mayor of Sheffield as its President, the Vice-Chancellor of the University (Sir Henry Hadow) as chairman, and the county court judge (his honour Judge Adshead Elliott, K.C.) as vice-chairman. The committee has medical and civilian representatives from the Royal Infirmary, the Royal Hospital, the Jessop Hospital for Women, the Hospital for Sick Children, and the Edgar Allen Institute for Medico-Mechanical treatment, together with representatives of the University, and a certain number of coöpted members, including representatives of labour. This committee has already got to work, and three subcommittees are engaged in drawing up reports upon the subjects of nursing, increased in-patient accommodation, and finance respectively. That these hitherto separate institutions should have agreed to discuss their future policy on these urgent subjects is a hopeful sign, and promises results of the utmost value for future hospital development in the city. There is no doubt that the movement originated in the close daily coöperation brought about by war conditions amongst the members of the various honorary staffs, and the consequent breaking down of barriers.

THE Chelsea Hospital for Women has received a bequest of £900 from the late Mr. A. H. Lloyd and £100 from the Alexandra Day Fund.

FOR the first time in its career the Lord Mayor's Hospital Sunday Fund for Bristol has exceeded £5000—a sum representing perhaps 5 per cent. of the total expenditure which it goes to meet.

TRAINING OF MIDWIVES.—The Board of Education has notified that the draft, dated Sept. 19th, of the regulations for the training of midwives has been confirmed without amendment, and thus becomes "The Board of Education (Midwives' Training) Regulations, 1919." Copies can be purchased through any bookseller (price 1*d*.).

RAISING OF MEDICAL FEES.—At a meeting of the members of the Ulster Medical Society and of the Ulster Branch of the British Medical Association held in the Medical Institute, Belfast, on Nov. 27th, Colonel A. Fullerton (President of the Ulster Medical Society) in the chair, the following resolution—on the motion of Dr. R. Leathem, seconded by Lieutenant-Colonel A. B. Mitchell—was passed unanimously:—

"That this meeting of the medical men of Belfast and surrounding districts resolve that a general increase of at least 50 per cent. shall be made in all medical fees, and that due notice of this shall be published in the daily papers."

AT a general meeting of the medical profession in Hampstead, summoned by the Hampstead Medical Society on Nov. 27th, it was decided to elect a committee, to be called the Hampstead Medical Committee, to watch over the interests of the profession in the borough, and to act as arbiter in disputes when desired by both parties. It was further decided to make an increase of at least 50 per cent. to pre-war medical fees on all medical accounts, which would be rendered quarterly instead of half-yearly as hitherto. The meeting elected a committee of nine members representative of all branches of the profession in the borough. At the first meeting of the committee Dr. F. E. Scrase, the medical officer of health for Hampstead, was elected chairman, and Dr. H. P. Crampton, 7, Frognal, Finchley-road, N.W., is acting as honorary secretary.

BRISTOL Medical Committee, representing all branches of the medical profession, has had under consideration the question of raising fees for medical service. With the approval of the various groups of practitioners through the city, the committee has decided to approve the raising of fees approximately to the extent of 50 per cent. as compared with pre-war rates. It will be readily understood that, in any case where the rigid application of this action on the part of the profession would inflict hardship, the practitioner has the same right of exercising his private judgment as he has always had. The Bristol Medical Committee was formed some months ago by general consent of the practitioners of Bristol. It gives proportional representation to each section of the profession, general practitioners, consultants, administrative officers, and so on. While it is politically independent it is not in conflict with any of the larger organisations. Its purpose is constructive; for example, it has begun useful work in coöperation with the Bristol War Pensions Committee on behalf of the discharged men of Bristol.

WOODEN HOUSES IN NORWICH.—To Norwich belongs the distinction of turning out the first standard permanent wooden house conforming to the requirements of the Ministry of Health and officially approved. This model house was built by the firm of Boulton and Paul at their local works, and erected in less than a month at Great Plumstead, near Norwich. It is built on the bungalow plan and is 45 ft. 7½ in. long by 19 ft. wide, and 8 ft. high from floor to ceiling. The main room is a kitchen and living room combined, measuring 18 ft. 4 in. by 10½ ft., with windows at both ends and an open kitchen range. It is shut off from the "scullery" part of the house, which contains an independent range and boiler, linen cupboard, sink, coal-cellar, and larder, and may serve as a kitchen during the summer. There is no parlour, but there are three bedrooms, ranging in size from 14 ft. 3 in. by 11 ft. 3 in. to 10 ft. 9 in. by 6 ft. 9 in. Two of the bedrooms are provided with open fireplaces, and all have good casement windows. The coming generation has not been overlooked, as the house contains provision for the accommodation of a perambulator. The sections of which the house is built can be easily bolted together, and they are lined on the inside with fibrous plaster slabs over half an inch thick, or asbestos can be used to make them fireproof. Judged by the illustrations, beauty has been sacrificed to utility in the design, as the exterior appearance of the model house is very plain. The design has been standardised, and the aim of the firm is by "mass production" to turn out 5000 wooden houses yearly. The price is fixed at present at £673, so that however good the house may be it certainly cannot be called cheap.

A CONFERENCE convened by the British Federation of Medical and Allied Societies will be held at Steinway Hall, 15, Lower Seymour-street, London, W.1, on Friday next, Dec. 12th, at 3 P.M.

Dr. Harry Campbell will deliver the first Savill memorial lecture on "The Integration and Disintegration of the Mental Personality" on Wednesday, Dec. 10th, at 5 P.M., at the West End Hospital for Diseases of the Nervous System, 73, Welbeck-street, W.

THE LATE DR. BUNTINE, M.L.A.—A Memorial Fund is being generously supported at Pietermaritzburg, Natal, in memory of the late Dr. R. A. Buntine, M.L.A., who was one of the victims of the torpedoed *Galway Castle* 15 months ago. The memorial is to take the form of a children's ward in Grey's Hospital, Pietermaritzburg. Dr. Buntine represented Maritzburg South in the Union Parliament, and was a native of Melbourne.

THE PREVENTION OF VENEREAL DISEASES.—Under the auspices of the Faculty of Insurance a meeting will be held at the Central Hall, Westminster, on Tuesday, Dec. 16th, at 7 P.M., in support of the prevention of venereal disease by the immediate self-disinfection of men. Stress will be laid upon its necessity, simplicity, practicability, and efficacy. Lord Willoughby de Broke, President of the Society for the Prevention of Venereal Diseases, will be in the chair, and an interesting list of probable speakers is announced. Applications for tickets should be addressed to either the Faculty of Insurance, Sicilian Avenue, Southampton Row, W.C.1, or to Dr. Wansey Bayly, 143, Harley-street, W.1.

GREAT NORTHERN CENTRAL HOSPITAL.—The Prince of Wales, the President of this charity, will preside at a dinner at the Connaught Rooms on Dec. 12th at 7 P.M., and a special effort is being made to collect a large sum to hand to His Royal Highness on this occasion. The hospital serves a very large area in the North of London, and is so short of accommodation that it is compelled to ask for a sum of £200,000 for extension and maintenance. The Marquis of Northampton, 10, Berkeley-street, London, W., the chairman of the hospital, will be glad to receive donations.

CROYDON GENERAL HOSPITAL.—The fifty-second annual report of this institution dealing with the year ending June, 1919, states that although the 50 beds appropriated by the naval, military, and air authorities during the war were surrendered by them at the end of 1918, discharged disabled men continue to receive treatment in the wards. The vacated beds have been quickly filled by an ever-increasing influx of civilian cases, with the result that the total number of in-patients for the year is 1384 as compared with 1278 in the previous year. The patients in the out-patient departments, both medical and surgical, show a falling-off in numbers. In the X ray department the work increased, the number of hospital patients rising from 1105 to 1164. The cost of maintenance for the year was £9865, exclusive of £407 expended on building. The income was £18,748.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL (THE UNIVERSITY OF LONDON).—The annual dinner was held on Wednesday, Nov. 26th, in the Prince's Restaurant, under the chairmanship of Dr. J. H. P. Fraser, D.S.O., M.C., when there was a large attendance on the resumption, after a six years' gap, of this yearly function. The toast of the "Past and Present Students" was proposed by Dr. S. Russell Wells, who reminded his audience that although the medical school of St. George's Hospital had always been a favourite institution with Oxford and Cambridge, all the students must be alumni of the University of London, of which the school was a constituent body. He alluded to the habit of the mediæval student of wandering from university to university as having much to commend it, and he urged upon the students of St. George's to remember the claims upon them of the largest University in the empire. The toast was responded to in an interesting and humorous manner by Sir George Turner, the late senior surgeon, Mr. A. W. Uloth, responding for the younger generation. Mr. R. R. James, the acting dean of the school, described the strenuous nature of the work and the zeal of organisation that had been engendered in running the hospital during the war, when nearly all the honorary staff and quite all the junior staff had departed on military or naval work. He acknowledged the able and devoted assistance received in the difficult situation from the women students, though he announced the probable alteration of the conditions in respect to their future admission. The "Health of the Chairman" was proposed by Lieutenant-Colonel W. F. Tyndale, C.M.G., D.S.O., who told in a matter-of-fact manner the story of a gallant deed for which Colonel Fraser obtained one of his decorations. The function was in every way a successful one.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Nurses' Registration (No. 2) Bill.

THE Nurses' Registration (No. 2) Bill was considered by Standing Committee B of the House of Commons on Tuesday, Dec. 2nd. Mr. T. P. O'CONNOR was in the chair.

There were a large number of amendments on the paper, mostly of an unimportant and drafting character. Sir WATSON CHEYNE had a series of amendments down, the object of which was to provide that the nurses' register to be set up by the General Nursing Council should be confined to "fully trained male and female nurses."

Sir WATSON CHEYNE urged that there were a variety of nurses, including "wet" nurses and children's nurses. The duty of the latter was merely to push a perambulator. In his opinion it was only fair that those who were trained nurses should be so described, and that the others should be registered in a supplementary register.

Dr. ADDISON (Minister of Health) resisted the amendments, which, he said, struck at the root of the Bill and nullified one of its principal objects. If Sir WATSON CHEYNE'S proposal were agreed to it would make the first register consist of higher-class nurses, and the result of that would be that those who were relegated to the supplementary register would be branded as an inferior class with inferior training. He objected to that. The time would come when all those who applied for registration would require to be of a higher standard of training, but at the outset it would be most unfair to set up a distinction such as was proposed. It was a Parliamentary principle that existing interests must be protected and that was done in the Bill.

After some discussion, in which the sense of the Committee was shown to be against the amendments, Sir WATSON CHEYNE withdrew his proposal.

Captain ELLIOTT moved an amendment to Clause 6 to the effect that with a view to securing a uniform standard of qualification in all parts of the United Kingdom the Council should consult with the councils set up for Scotland and Ireland in respect to applications for admission to the register.

Dr. ADDISON expressed his willingness to accept the amendment, which was agreed to, and promised that he would make provision that two persons should be placed on the Council who had experience of children's nursing.

The Committee stage was completed and the Bill was ordered to be reported with amendment to the House.

HOUSE OF COMMONS.

WEDNESDAY, NOV. 26TH.

Retention of Medical Officers in the Army.

Lord HENRY CAVENDISH-BENTINCK asked the Secretary for War whether he was aware that numbers of medical officers who joined the army voluntarily in 1914 or before the passing of the Military Service Acts had persistently applied for demobilisation and that their applications had been refused; whether some of these medical officers were receiving £60 a year less than others who voluntarily enlisted for a further six months, though there was no certainty that these volunteers would not be demobilised on or before the same date as the others; whether large numbers of younger medical officers had been demobilised after short periods of service; whether, if so, there was any justification for this different treatment; and whether he could make any promise with regard to the early demobilisation of the medical officers referred to, or, alternatively, could undertake that their rate of payment during service should be not less than that of the medical officers who consented, often for personal reasons, to stay in the army.—Mr. CHURCHILL replied: I am aware that many medical officers who joined the army voluntarily before the passing of the Military Service Acts and who afterwards came under the provisions of those Acts are still of necessity retained on military service, and that some of these officers are receiving less than those who have undertaken to serve for a further period of six months. A considerable number of medical officers with comparatively short service have from time to time been demobilised for special reasons, more particularly to meet the urgent needs of the civil population, and in accordance with the demand of the Ministry of National Service. Medical officers are now being demobilised in order of priority, having regard to length of service, age, &c., immediately they can be spared. I regret it is not possible to extend the terms given to officers who bind themselves for a definite period to those who will not undertake this obligation.

Treatment of Tuberculous Service Men.

Sir MONTAGUE BARLOW asked the Minister of Health whether he had considered the recommendations of the

Inter-departmental Committee on Tuberculous Soldiers and Sailors; and how soon he proposed to give effect to their recommendations.—Dr. ADDISON replied: Yes, Sir; and each of the principal recommendations are already being carried out, or steps taken towards this with all possible expedition.

Nurses Registration (Ireland) Bill.

Mr. MACPHERSON (Chief Secretary for Ireland) presented a Bill to provide for the registration of nurses in Ireland. The measure was read a first time.

THURSDAY, NOV. 27TH.

R.A.M.C. Officers and Permanent Government Appointments.

Mr. GRATTAN DOYLE asked the Pensions Minister if he would state the number of medical men permanently employed in his department who had not served in His Majesty's Forces overseas during the war, the number so employed who had served overseas, how many who had not served overseas now hold high administrative rank, including deputy commissioners of medical services and assessors, the number of medical men who had applied for permanent appointments, and how many had been granted; if he was aware that many, if not most, of the well-paid posts had never been advertised in the medical or other press; if he could give any information as to how these posts were filled; if the official in charge of the Appointments Department of the Ministry of Pensions (Director-General's Department, 14, Great Smith-street, S.W.), Dr. R. M'Queen, had served overseas in His Majesty's Forces; and if he would take steps to see that ex-Royal Army Medical Corps and naval medical officers got preference for all appointments before the appointments were made permanent.—Sir L. WORTHINGTON-EVANS: In reply to that part of the question which relates to Dr. M'Queen, I may inform my honourable friend that this officer was mobilised on the first day of the war and served continuously until four months after the signing of the armistice, when he was invalided with a 30 per cent. disability resulting from service in France, Belgium, and Macedonia. In appointments to the medical services division of the Ministry it is the invariable practice to give preference to men who have seen war service overseas. The medical officers of the Ministry are, almost without exception, serving on temporary engagements terminable at a month's notice. There are only three permanent officials, of whom one has served overseas. There are 59 temporary officers who have not served overseas, of whom 48 have served at home, and others with the British Red Cross or similar units. Since April 1st between 1600 and 1700 applicants have been interviewed. The present number of salaried appointments is 244. As will be seen from these figures the material for selection for the few posts available has been so great that advertisement has been unnecessary. Each applicant is personally interviewed and his suitability is carefully considered in the light of his former service and general qualification and experience, special attention being given to his experience of the kind of work at which it is proposed to employ him. Since April 1st no applicant has been favourably considered unless he has had war service in the Navy, Army, or Air Force.

Ministry of Pensions Staff.

Mr. ROSE asked the Minister of Pensions if he would state the grades and average salaries of the 283 officials removed from his department during the month of September; and how many, if any, of them were transferred to other Government departments.—Sir L. WORTHINGTON-EVANS replied: The net reduction in staff at Headquarters in September was 497. Against this the staff in the Regions and in medical institutions showed a net increase of 214, giving a net reduction for the whole Ministry of 283. The reduction was practically entirely in the clerical grades with wages averaging about 46*s.* a week. No transfers were made to other Government departments.

Hospital Treatment of Disabled Men.

Mr. MOSLEY asked the Prime Minister whether approximately 400 disabled men were still awaiting hospital treatment as bed cases in the London district.—Sir L. WORTHINGTON-EVANS replied: There are at present about 130 discharged disabled men awaiting hospital treatment as bed cases in the London area. The surgical cases will be admitted forthwith, and other cases with as little delay as possible.

The Irish Health Council.

Major O'NEILL asked the Chief Secretary to the Lord Lieutenant of Ireland whether he could make any statement as to the progress of the work of the Irish Health Council set up under the Ministry of Health Act.—Mr. MACPHERSON replied: The Council have already held several meetings since their constitution in September. Their deliberations are directed towards the formulation of a comprehensive health measure for Ireland which involves a minute and detailed examination of the existing machinery for health administration. Substantial progress has been made by the Council in this work. The Council has been engaged on the preparation of Regulations under the Public Health (Medical Treatment of Children) (Ireland) Act, 1919, and have also, after conference with the various nursing associations, submitted a Bill providing for the registration of nurses in Ireland.

Medical Research Committee.

Mr. ROBERT YOUNG asked the Minister of Health whether the Medical Research Committee was to work under the control of the Privy Council after June next; and whether in that case the funds available for the committee's work were still to be derived from moneys provided by Parliament under the National Health Insurance Act, or whether a separate vote would be made of this money.—Sir L. WORTHINGTON-EVANS replied: Yes, Sir; and a separate vote will be taken after the transference.

Outdoor Employment for Tuberculous Officers.

Mr. WADDINGTON asked the Minister of Health if he was aware of the difficulty now experienced by young men of good education who developed tuberculosis as a consequence of war service and were now advised not to follow a teaching career in the schools, and the only recommendation made to them was to take up poultry farming or horticulture; and whether, in view of the great sacrifices made by many of the parents to educate these young men, he would consider a scheme to train under his department a proportion of these cases for survey work or other similar duties which would give a maximum of outdoor employment.—Sir L. WORTHINGTON-EVANS replied: A scheme of the kind referred to suitable for tuberculous ex-officers requiring outdoor employment is now under consideration.

Mental Deficiency and Lunacy (Amendment) Bill.

Major BAIRD (Under Secretary for the Home Department), in moving the second reading of the Mental Deficiency and Lunacy (Amendment) Bill, explained that although it was merely a financial measure the effects of the Bill were more far-reaching than merely financial. The object of the Bill was to make it possible to carry out the recommendations of the Royal Commission appointed in 1904 to report on the question of the feeble-minded. The increased cost of everything had made it quite impossible for local authorities to carry out their functions under the Lunacy Act of 1913 unless they received a larger sum from the State. Moreover, as a result of the war, feeble-minded persons were the first to lose their employment, and it was advisable in the interests of these unfortunate people, as well as those of the community, that no steps should be spared to deal with the matter in a humane and efficient manner. Besides affording the local authorities financial support, it was necessary to stimulate the activity of some of the local authorities who had not seen their way to throw as much energy into this branch of their duties as the importance and seriousness of the subject demanded. It was hoped by removing the limit of the total sum which the Treasury could pay in the shape of the 50 per cent. grant to local authorities to enable them to embark upon a much more thorough scheme of work than had been possible in the past. The White Paper on this subject showed that the total expenditure contemplated would eventually be £1,400 000. It was not anticipated that the total sum would be expended in any one year before at least five years from now, and, of course, the gradual increase of expenditure could not be accurately estimated. Under the Act of 1913 the Treasury was limited to a grant of £150,000 to the English and Welsh local authorities in connexion with measures taken by them to deal with the feeble-minded. That limitation was very unfortunate and had had a most hampering effect on this very important work. The same applied to Scotland, with the difference that the limit there was smaller, being only £20.000. It was estimated that in England and Wales the number of people who ought to be dealt with was something like 21,700. In Scotland the number was 4000. It was estimated that each case would require something like £60 per annum for treatment. The Bill proposed to remove the limit on the amount of interest payable by local authorities on borrowed money. All that they sought by this measure was that local authorities should be put upon the same footing in this matter as they were in regard to the treatment of tuberculosis and venereal disease. In both cases there was a contribution, in one case of 50 per cent. and in the other case of 75 per cent., towards the total sums spent by the local authorities, but there was no limit to the total amount of the Exchequer grant. The Bill was read a second time.

MONDAY, DEC. 1ST.

Grants to Insurance Practitioners.

Sir ALFRED YEO asked the Minister of Health if he would state why he required facts and figures for measuring the amounts of the Exchequer grants payable to insurance

practitioners who were medical officers of Approved Institutions which he did not require from other insurance practitioners.—Dr. ADDISON replied: No such requirement is being made as is suggested in the question. The medical officers of Approved Institutions are not themselves under any contract with the insurance authorities, but with the institutions by whom they are employed; no direct payment can therefore be made to them from Exchequer funds. The information needed to substantiate the claims of these institutions is strictly analogous to that needed in the case of insurance practitioners. I am sending my honourable friend a copy of two letters addressed to the Friendly Societies Medical Alliance on the subject which can, I think, leave no doubt as to the particulars which are required or as to the necessity for such figures being furnished.

Mentally Deranged Soldiers.

Mr. CASEY asked the Secretary for War whether he was aware if there were any British soldiers and sailors in any institution in this or any other country who were suffering from loss of memory or other infirmity whose identity had not been established.—Mr. FORSTER replied: I understand that there are three cases of soldiers whose identity it has not been possible to establish owing to mental trouble and that all three are now in this country, and we are doing our best to clear up these cases. The question as regards sailors should be addressed to the Admiralty.

Pay of the Pensions Medical Staff.

Brigadier-General CROFT asked the Pensions Minister whether from Oct. 6th, 1919, the rate of pay for men on examining boards had been increased by 50 per cent. to £1 11*s.* 6*d.* per session, whilst the pay of assessors and other full-time men paid on sessional basis remained at £1 1*s.* per session; whether a part-time man working at the new rate of two sessions a day, or four days a week, made 52 guineas per annum more than a full-time man who worked six days a week at the present rate; and, if so, whether he would take steps to see that more equitable treatment was meted out to the minority of the medical staff of the Ministry of Pensions.—Sir J. CRAIG (Parliamentary Secretary to the Ministry of Pensions) replied: The answer to the first part of the question is in the affirmative, but the conditions of work of the member of the board and of the assessor are very different. It is not inequitable that the difference between occasional employment, which cannot be counted upon from day to day, and regular and full employment, which can be counted upon, provided the officer's work is satisfactory, should be marked by a difference in the rate of payment. My right honourable friend is, however, considering whether, in view of the greatly enhanced cost of living, some increase in the scale of payment of the assessors should be made.

Educational Grant for Demobilised Medical Officers.

Mr. DEVLIN asked the Secretary for War whether the post-war education grant which was now being given to demobilised medical officers would also be given to demobilised medical women.—Mr. FISHER (Minister of Education) replied: I presume that the honourable Member refers to the grant under the Government scheme for the assisted higher education of ex-Service officers and men. The scheme does not apply to women.

TUESDAY, DEC. 2ND.

Medical Officer's Retention in India.

Mr. PULLEY asked the Secretary for War whether he was aware that Captain Percy George Albert Bott, Royal Army Medical Corps, Staff College, Wellington, India, aged 42, who joined the army in September, 1917, and was immediately sent to Mesopotamia, mentioned in despatches, invalided to India in December, 1918, was still being detained in India, although he had applied on several occasions to be demobilised in order to resume medical practice in Kensington; and whether, having regard to the age and record of this officer, he would sanction his immediate release.—Mr. CHURCHILL replied: Every endeavour is being made to provide reliefs for temporary medical officers serving in India, who, as the reliefs arrive, are sent home in order of priority according to length of service, age, &c. Captain Bott will be returned to the United Kingdom in his turn. The attention of the authorities in India is again being drawn to this case.

Medical Pay in Voluntary Aid Hospitals.

On the motion for adjournment,

Mr. WATERSON called attention to the question of medical remuneration in voluntary aid hospitals. Nobody, he said, would doubt the sincerity and honesty of the medical profession in its patriotism and loyalty to the people who were sufferers, indirectly and directly, through the war. Many doctors went forward to the local auxiliary hospitals to give their services free, and incidentally, owing to those services, many patients were alive to-day who would otherwise have been in their graves. These members of the medical profession volunteered without hope of reward, believing that they were doing their bit for their country, and many of them had sacrificed hundreds of pounds, and in many cases the whole of their businesses, in order to minister to the wants of suffering humanity. After some considerable time a secret circular of a confidential character was issued by the War Office on June 16th, 1915, which allowed so much per diem to the doctors in charge of voluntary aid hospitals. The circular stated that it was not intended that the payment should be made unless asked for. The hospitals, &c., should not be informed of this authority. Such a circular was a disgrace to the intelligence of the War Office and an insult to the medical fraternity. One or two gentlemen in whom he was particularly interested had endeavoured to get a satisfactory reply from the War Office, but had been completely ignored. THE LANCET on June 23rd, 1917, wrote: "It may be that many medical officers of V.A.D. hospitals are prepared to give their services gratuitously and to defray their out-of-pocket expenses ....." At this stage a count was called, and the requisite 40 members not being present the House stood adjourned.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surg.-Cmdr. W. R. Trythall is placed on the retired list at his own request.

Surgeon Lieutenant-Commanders to be Surgeon-Commanders: G. O. M. Dickenson, N. S. Meiklejohn, W. P. Hingston, R. H. St. B. E. Hughes, A. H. S. Richardson, E. B. Kenny, F. J. Gowans, E. R. Townsend, J. C. Eringan, G. L. Buckeridge, A. D. C. Cummins, T. W. Jeffery, P. D. Ramsay, G. D. Walsh, J. E. Johnston, F. Cock, B. R. Bickford, A. R. Davidson, F. G. Wilson, H. A. Kellond-Knight, A. B. Cox, D. D. Turner, B. S. Robson, B. Pick, J. H. McDowall, A. B. Marsh, J. M. Gordon, J. D. Kerr, L. C. Rowan-Robinson, G. Nunn, W. C. B. Smith, T. E. Blunt, G. E. Hamilton, W. T. Haydon, W. L. Hawkins, L. F. Cope, H. B. Hill, H. M. Braithwaite, D. G. Addison-Scott, L. C. Hunt, P. M. Rivaz, J. R. A. Clarke-Hall, H. Cooper, J. McA. Holmes, E. D. Rutherford, R. Willan, R. H. McGiffon, M. W. Haydon, E. L. Atkinson, J. Bourdas, L. Warren, L. L. Greig, E. Cameron, P. F. Minett, F. G. Goble, H. A. Browning, R. Connell, J. L. Barford, J. C. F. D. Vaughan, T. Creaser, H. M. Langdale, W. H. Hastings, S. F. Dudley, W. W. D. Chilcott, C. V. Griffiths, G. P. Adshead, C. Ross, G. G. Vickery, H. D. Drennan, J. S. Austin, A. R. Fisher, W. H. Edgar, D. H. C. Given, G. Carlisle, G. T. Verry, G. B. Scott, F. H. Holl, C. H. L. Petch, H. H. Babington.

Surgeon-Lieutenants to be Surgeon Lieutenant-Commanders: C. H. Symons, A. B. Clark, G. B. Cockrem, H. R. B. Hull, C. M. R. Thatcher, E. St. G. S. Goodwin, G. D. G. Fergusson, R. J. Barlee, G. D. Macintosh, L. Moss, J. A. O'Flynn, J. P. Shorten, A. R. Price, G. V. Hobbs, F. J. D. Twigg, G. E. D. Ellis, F. J. Burke, A. E. Malone, H. M. Whelan, R. F. P. Cary, P. L. Gibson, G. A. Finegan, J. D. S. Higgins, J. G. Boal, F. St. B. Wickham, A. M. Henry, G. F. B. Page, A. J. Patterson, W. A. S. Duck, F. C. Wright, B. E. P. Sayers, A. Simpson, H. E. Y. White, D. P. H. Pearson, I. S. Gabe, A. J. Tozer, P. B. Wallis, A. R. Sharrod, J. S. Elliot, A. E. Panter, G. S. Harvey, W. H. Murray, G. H. Hayes, H. C. A. Tandy-Cannon.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon-Lieutenant to be Surgeon Lieutenant-Commander: W. J. A. Quine.

ARMY MEDICAL SERVICE.

Col. E. M. Hassard, half pay list, retires on retired pay.

Temp. Col. Sir H. Davy (Lieutenant-Colonel, R.A.M.C., T.F.) relinquishes his temporary commission on re-posting.

Temp. Hon. Col. Sir P. J. Freyer (Surgeon Lieutenant-Colonel (ret.), Indian Medical Service) is granted the honorary rank of Colonel on ceasing to be re-employed.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Lieutenant-Colonels relinquish the temporary rank of Colonel: Bt. Col. H. Ensor, S. de C. O'Grady.

Lieut.-Col. H. Herrick relinquishes the acting rank of Colonel.

Majors R. K. White and F. E. Roberts relinquish the acting rank of Lieutenant-Colonel on ceasing to command Medical Units.

The undermentioned to be acting Lieutenant-Colonels whilst commanding Medical Units: Major and Bt. Lieut.-Col. M. G. Winder; Major R. C. Wilson; Temp. Major W. H. G. Aspland.

Temp. Lieut.-Col. T. W. Griffith (Major and Bt. Lieut.-Col., R.A.M.C., T.F.) relinquishes his temporary commission on re-posting.

Major and Bt. Lieut.-Col. R. A. Bryden relinquishes the temporary rank of Lieutenant-Colonel on ceasing to command a Medical Unit.

Temp. Capt. A. C. Renton relinquishes the acting rank of Major.

To be Captains: Capt. C. E. Petley, from T.F.; Capt. A. K. Forbes, late R.A.M.C.; Temp. Capts. O. C. Link, (acting Major) F. C. Tibbs, W. F. Hawkins.

Late temporary Captains to be temporary Captains: J. Elliott, R. C. Phelps, D. R. C. Shepherd.

T. E. Dobbs to be temporary Captain.

Capts. L. C. Goument and V. J. Perez, from Special Reserve, to be Lieutenant, and to be temporary Captain.

D. M. O'Dwyer and E. J. Hynes to be temporary Lieutenants.

Officers relinquishing their commissions: Temp. Lieut.-Col. W. T. Prout retains the rank of Lieutenant-Colonel. Temporary Majors retaining the rank of Major: W. F. Jones, A. C. Stamberg (Surg.-Major, Med. Corps, R. Jersey Mila.), J. M. Macmillan, F. B. G. Stableford. Temp. Capt. and Bt. Major J. S. Dunn retains the Brevet rank of Major. Temporary Captains granted the rank of Major: H. Parsons, H. C. Watson, R. H. Rollinson-Whitaker, (acting Major) W. H. Fleetwood, G. Wilson, W. G. Mumford, A. J. Dunlop; Temporary Captains retaining the rank of Captain: J. E. R. Laborda, W. H. Maling, J. C. Warwick, H. E. Kitchen, P. Smith, W. K. MacDonald, A. L. Jackson, D. J. McLaren, H. Joslen, G. Kirkhope, D. A. Evans, R. M. Stewart, J. Walker, I. M. Byers, H. P. Caithness, A. Stokes, J. L. Dunlop, J. G. Johnstone, G. M. Grundy, W. Montgomery, G. M. Adam, H. H. Butcher, W. J. Olivey, C. H. Hart, W. K. Anderson, D. Wood, H. H. Carleton, L. W. Roberts, D. M. McGillivray, R. Nichol, J. W. W. Hewitt, D. J. Stokes, H. Q. O. Wheeler, R. V. Powell, J. D. Evans, R. H. Jones, E. A. Scott, W. F. Shanks, G. C. Linder, S. L. Haslett, S. V. Telfer, A. Climie, P. R. Boswell, A. E. Hodgkins, A. Wright, F. V. Cant, H. D. H. Willis-Bund, J. D. Watson, J. A. Leiper, J. N. Martin, L. H. Terry, A. H. Richardson, A. H. Duckett, C. H. Edwards. Temporary Honorary Captains retaining the honorary rank of Captain: S. H. Kagan, E. A. Cayo. Temporary Lieutenants retaining the rank of Lieutenant: E. S. Littlejohn, H. R. F. Towne, F. Campbell, C. E. Pengelley.

SPECIAL RESERVE OF OFFICERS.

Captains relinquishing the acting rank of Major: H. C. Rook, J. Inkster.

Lieutenants to be Captains: P. J. Corcoran, W. M. Casper, W. H. Simmons, G. F. Peters, W. A. Hawes, R. A. Olphert.

TERRITORIAL FORCE.

Majors (acting Lieut.-Cols.) J. M. Duncan, A. Milne-Thomson, and Capt. (acting Lieut.-Col.) P. T. Rutherford relinquish the acting rank of Lieutenant-Colonel on ceasing to be specially employed.

Captain (acting Major) H. H. B. Cunningham to be Major.

Captain (acting Major) J. H. Robinson relinquishes the rank of Major on ceasing to be specially employed.

Capt. G. S. Glass is seconded.

1st London Sanitary Company: Lieut. L. N. Duguid to be Captain.

4th London General Hospital: Capt. (acting Major) A. J. Jex-Blake relinquishes the acting rank of Major on ceasing to be specially employed and is restored to the establishment.

2nd Northern General Hospital: Capt. (acting Major) R. A. Veale relinquishes the acting rank of Major on ceasing to be specially employed.

3rd Southern General Hospital: Major G. S. Abram is restored to the establishment.

ROYAL AIR FORCE.

Medical Branch.—Capt. (Bt. Major) F. C. Cowtan, R.A.M.C., is granted a temporary commission as Squadron Leader on seconding to the R.A.F.

The undermentioned Flying Officers to be Flight Lieutenants: S. E. Duff, A. Parker, T. D. J. A. Fuller, E. T. McElligott, D. C. Farquharson, J. T. T. Forbes, J. W. Healy, M. J. Smyth.

Capts. A. P. Woollright and V. T. Ellwood are transferred to the unemployed list.

Capt. H. N. Wright relinquishes his commission.

Capt. C. T. Costello relinquishes his commission and is permitted to retain his rank.

Dental Branch.—The undermentioned Flying Officers to be Flight Lieutenants: N. A. Goudge, W. Inman, L. S. Kettlewell, W. J. Singleton, J. Smith, J. Jones, J. Wren.

URBAN VITAL STATISTICS.

(Week ended Nov. 29th, 1919.)

English and Welsh Towns.—In the 96 English and Welsh towns, with an aggregate civil population estimated at 16,500,000 persons, the annual rate of mortality, which had been 13·4, 13·9, and 14·8 in the three preceding weeks, fell to 13·8 per 1000. In London, with a population slightly exceeding 4,000,000 persons, the annual death-rate was 14·3, or 0·4 per 1000 below that recorded in the previous week, while among the remaining towns the rates ranged from 6·2 in Lincoln, 6·4 in East Ham, and 7·1 in Swindon, to 19·4 in Hastings, 19·5 in Plymouth, and 19·7 in Gateshead and in Carlisle. The principal epidemic diseases caused 251 deaths, which corresponded to an annual rate of 0·8 per 1000, and comprised 77 from measles, 65 from diphtheria, 60 from infantile diarrhœa, 27 from whooping-cough, 20 from scarlet fever, and 2 from enteric fever. Measles caused a death-rate of 2·0 in Preston, 2·2 in Barnsley and in Gateshead, and 2·9 in Carlisle; scarlet fever of 2·9 in Carlisle; and diphtheria of 2·7 in Enfield. The 63 deaths from influenza were 16 below the number recorded in the previous week, and included 15 in London, 4 in Liverpool, and 3 each in Birmingham, Oldham, and Rochdale. There were 2940 cases of scarlet fever and 1603 of diphtheria under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, against 2820 and 1537 respectively at the end of the previous week. The causes of 41 deaths in the 96 towns were uncertified, of which 5 were registered in Birmingham and 3 each in London, Liverpool, St. Helens, Manchester, Preston, and Gateshead.

Scotch Towns.—In the 16 largest Scotch towns, with an aggregate population estimated at nearly 2,500,000 persons, the annual rate of mortality, which had been 13·1, 12·6, and 18·6 in the three preceding weeks, fell to 15·0 per 1000. The 336 deaths in Glasgow corresponded to an annual rate of 15·7 per 1000, and included 8 from infantile diarrhœa, 4 from measles, and 3 each from scarlet fever and diphtheria. The 74 deaths in Edinburgh were equal to a rate of 11·5 per 1000, and included 3 from scarlet fever and 1 from diphtheria.

Irish Towns.—The 117 deaths in Dublin corresponded to an annual rate of 15·1, or 2·7 per 1000 below that recorded in the previous week, and included 1 each from scarlet fever and infantile diarrhœa. The 133 deaths in Belfast were equal to a rate of 17·3 per 1000, and included 10 from measles, 8 from scarlet fever, 2 each from diphtheria and infantile diarrhœa, and 1 from enteric fever.

Communications, Letters, &c., to the Editor have been received from—

A.—Mrs. V. B. Alvarez, New York; Prof. J. G. Adami, C.B.E., Liverpool.

B.—Dr. C. H. Bond, Lond.; Mr. F. G. Brown, Lond.; British Temperance League, Sheffield; Dr. H. Barber, Derby; Dr. S. Barwise, Derby; Dr. V. Borland, Lond.; Dr. N. Bardswell, Lond.; Prof. A. E. Boycott, Lond.; Mr. C. W. G. Bryan, Lond.; Dr. J. Blomfield, Lond.

C.—Dr. H. Campbell, Lond.; Dr. F. G. Crookshank, Lond.; Dr. P. J. Cammidge, Lond.; Dr. H. P. Cholmeley, Forest Row.

D.—*Discovery*, Lond., Editor of; Dr. N. S. Deane, Christchurch; Dr. W. T. G. Davidson, Glasgow; Mr. L. I. Dublin, New York; Messrs. Davis and Soper, Lond.; Col. J. R. Dodd, A.M.S., Bournemouth.

E.—Mr. G. S. Elliston, Lond.; Mr. C. St. Endellion-Wiliams, Rio de Janeiro.

F.—Dr. A. T. W. Forrester, Narborough; Factories, Chief Inspector of, Lond.

G.—Dr. W. E. Gye, Lond.; Dr. L. Grant, Ballachulish.

H.—Dr. A. J. Hall, Sheffield; Dr. C. G. Havell, Felixstowe; Capt. C. R. Harrison, R.A.M.C.(T.); Mr. P. B. Hoeber, New York; H. H. B.; Dr. C. T. W. Hirsch, Lond.; Dr. A. F. Hurst, Lond.; Hospital for Women, Lond., Sec. of; Mr. F. L. Hoffman, Newark; Prof. W. D. Halliburton, Lond.

I.—Dr. E. C. B. Ibotson, Corris.

J.—*Journal of Cancer*, Lond.

K.—Dr. J. Kirkland, Lond.; Mr. J. P. Kruseman, The Hague; Dr. A. Kidd, Gravesend.

L.—Livingstone College, Lond., Principal of; League of the Red Cross Societies, Geneva.

M.—Dr. E. D. Macnamara, Lond.; Medical Research Committee, Lond.; Sir J. Y. W. MacAlister, Lond.; Dr. J. A. Murray, Lond.; Capt. D. McKelvey, R.A.M.C.; Ministry of Health, Lond., Sec. of; Dr. M. Molony, San Francisco; Dr. H. A. Macewen, Lond.; Dr. P. Manson-Bahr, D.S.O., Lond.

N.—National Society for the Prevention of Cruelty to Children, Lond.

P.—Sir D'Arcy Power, K.B.E., Lond.; Mr. W. Platt, Lond.; Capt. J. Pickering; Dr. W. A. Potts, Edgbaston; Major G. S. Parkinson, R.A.M.C., Gibraltar; *Pathologica*, Genoa, Editor of.

R.—Mr. H. M. Rainsford, Lond.; Royal Society, Lond.; Rockefeller Institute for Medical Research, New York; Mr. P. Rous, New York; Mr. W. Rice, Lond.; Robin Society, Lond., Chairman of; Mrs. A. Richardson, Lond.

S.—Prof. W. Stirling, Manchester; Société de Biologie, Paris; Mr. N. Schuster, Lond.; H.M. Stationery Office, Lond.; Dr. R. Sevestre, Leicester; Dr. G. E. Shuttleworth, Lond.

T.—Dr. I. Tewfik, Rochester; Sir John Tweedy, Lond.; Mr. T. H. Turner, Bury; Dr. C. J. Thomas, Lond.

V.—Mr. R. M. Vick, Lond.

W.—Mr. H. L. Whale, Lond.; Dr. J. D. Wynne, Norwich; Dr. F. J. Wethered, Falmouth; Dr. R. McN. Wilson, Lond.

Communications relating to editorial business should be addressed exclusively to the Editor of THE LANCET, 423, Strand, W.C. 2.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.
THURSDAY, Dec. 11th.—Colonel C. F. U. Meek: A Further Study of Chromosome Dimensions (communicated by Prof. S. J. Hickson).—Mr. J. M. H. Campbell, Mr. C. G. Douglas, and Mr. F. G. Hobson: The Respiratory Exchange of Man during and after Muscular Exercise (communicated by Dr. J. S. Haldane).—Dr. A. D. Waller: The Energy Output of Dock Labourers during Heavy Work.—Mr. C. H. Usher: Histological Examination of an Adult Human Albino's Eyeball, with a Note on Mesoblastic Pigmentation in Fœtal Eyes (communicated by Prof. K. Pearson).—Mr. J. Gray: The Relation of Spermatozoa to Certain Electrolytes, II. (communicated by Prof. J. S. Gardiner).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Monday, Dec. 8th.

WAR (Hon. Secretaries—H. B. Hill, Oliver Robinson, J. McIntyre): at 5.30 P.M.
Paper:
General Sir John Goodwin, K.C.B., C.M.G., D.S.O.: Prevention of Disease on Active Service.

Tuesday, Dec. 9th.

PSYCHIATRY (Hon. Secretaries—Bernard Hart, G. F. Barham): at 5.30 P.M.
Paper:
Dr. Henry Devine: Observations on the Psychogenetic Psychoses.

Thursday, Dec. 11th.

NEUROLOGY (Hon. Secretaries—P. W. Saunders, George Riddoch): at 8.30 P.M.
Clinical Meeting.
Demonstration of Cases illustrating Certain Late Effects of Injuries of the Nervous System.
SURGERY.—Members of this Section are specially invited to attend this Meeting.

Friday, Dec. 12th.

CLINICAL (Hon. Secretaries—T. P. Legg, S. A. K. Wilson): at 5 P.M.
Mr. C. Firmin Cuthbert (Gloucester) will read a short paper.
Cases will be shown.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY, Dec. 8th.—8.30 P.M., Papers:—Prof. A. Keith: The True Nature of the Condition known as Multiple Exostosis.—Dr. B. H. Spilsbury: The Medico-Legal Significance of Hæmorrhage.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.
MONDAY, Dec. 8th.—8 P.M., Cantor Lecture:—Dr. J. T. Hewitt: Synthetic Drugs. (Lecture II.)

HARVEIAN SOCIETY, at the Medical Society's Rooms, 11, Chandos-street, Cavendish-square, W.
THURSDAY, Dec. 11th.—8.30 P.M., Address:—Sir James Galloway: The External Signs of Certain Internal Diseases.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.
THURSDAY, Dec. 11th.—5 P.M., Bradshaw Lecture:—Sir Charles A. Ballance, K.C.M.G., C.B., M.V.O.: The Surgery of the Heart.

ROYAL INSTITUTE OF PUBLIC HEALTH, in the Lecture Hall of the Institute, 37, Russell-square, W.C.
Course of Lectures on Housing Problems and Town Planning in Relation to Public Health.
WEDNESDAY, Dec. 10th.—4 P.M., Lecture VII.:—Dr. S. G. Moore: Housing in Relation to Maternity and Child Welfare.
Course of Instruction for Candidates as Tuberculosis Officers, General Practitioners, and others. Bacteriological Demonstrations will be given in the Laboratories of the Institute, and visits arranged to Sanatoriums, Tuberculosis Dispensaries, &c.
THURSDAY, Dec. 11th.—5 P.M., Lecture X.:—Dr. H. H. Thomson: The Diagnosis and Treatment of Tuberculosis in Relation to Public Health.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.
WEDNESDAY, Dec. 10th.—4.30 P.M., Lecture:—Dr. A. C. Inman: Types of Tubercle Bacilli.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, W.C. 1.
MEDICAL SCHOOL.
MONDAY, Dec. 8th.—2-3.30 P.M., Out-patient Clinic: Dr. Collier. 3.30 P.M., Lecture:—Mr. Paton: Papilloedema. II.
TUESDAY, Dec. 9th.—2-3.30 P.M., Out-patient Clinic: Dr. Grainger Stewart. 3.30 P.M., Ward Cases: Dr. Risien Russell.
WEDNESDAY, Dec. 10th.—2 P.M., Lecture:—Dr. Grainger Stewart: Symptoms of Disease of the Pituitary Gland. 3.30 P.M., Dr. Gordon Holmes: Demonstration of Case of Cerebellar Disease.
THURSDAY, Dec. 11th.—2-3.30 P.M., Out-patient Clinic: Dr. Farquhar Buzzard. 3.30 P.M., Lecture:—Dr. S. A. Kinnier Wilson: Involuntary Movements.
FRIDAY, Dec. 12th.—2-3.30 P.M., Out-patient Clinic: Dr. Gordon Holmes. 3.30 P.M., Ward Cases: Dr. Aldren Turner.
Fee for Post-Graduate Course £5 5s. C. M. Hinds Howell, Dean.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART POST-GRADUATE COURSE, Westmoreland-street, W.
MONDAY, Dec. 8th.—11 A.M., Out-patients: Dr. Goodall. 2 P.M., In-patients: Dr. Moon.
TUESDAY.—2 P.M., Out-patients: Dr. R. Wells. 2.30 P.M., In-patients: Dr. Gibbes.
WEDNESDAY.—2 P.M., Out-patients: Dr. Moon. 5.30 P.M., Lecture:—Dr. Gibbes: Heart Affections in Relation to Pregnancy, &c.
THURSDAY.—10 A.M., In-patients: Dr. Hamill: 2 P.M., Out-patients: Dr. Price.
FRIDAY.—2 P.M., Out-patients: Dr. Gibbes. 2.30 P.M., In-patients: Dr. Wells.
SATURDAY.—10 A.M., In-patients: Dr. Hamill.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.
WEDNESDAY, Dec. 10th.—5 P.M., Savill Memorial Lecture:—Dr. Harry Campbell: The Integration and Disintegration of the Mental Personality.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE CLINIC.
TUESDAY, Dec. 9th.—4.30 P.M., Lecture:—Mr. A. Wilson: Toxic Symptoms of Salvarsan.

Appointments

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BRYAN, C. W. G., M.C., F.R.C.S., has been appointed Surgeon to Out-patients at the Hampstead General and North-West London Hospital.

SPILSBURY, B. H., M.B., B.Ch. Oxon., Lecturer on Morbid Anatomy and Histology at the Medical School of St. Bartholomew's Hospital.

TANGYE, C. E., M.D., B.S. Lond., Chief School Medical Officer and Medical Officer of Health for Wilts.

St. Thomas's Hospital: BROCKMAN, E. P., M.R.C.S., L.R.C.P., CARDELL, J. D. M., M.R.C.S., L.R.C.P., HIGGINS, L. G., M.B., B.Ch. Cantab., MOOR, F., M.R.C.S., L.R.C.P., POTTER, A. F., M.R.C.S., L.R.C.P., SHOWELL ROGERS, E. N., M.B., B.Ch. Cantab., SMART, A. J. H., M.B., B.Ch. Cantab., STORMER, H. G., M.R.C.S., L.R.C.P., Casualty Officers and Resident Anæsthetists; ECCLES, C. Y., M.R.C.S., L.R.C.P., FOREST SMITH, J., M.R.C.S., L.R.C.P., PROCTER, R. A. W., M.R.C.S., L.R.C.P., WHITCOMBE, R. C. P., B.A. Cantab., M.R.C.S., L.R.C.P., Resident House Physicians; EVANS, H. S., M.R.C.S., L.R.C.P., FRIEDLANDER, H. R., M.R.C.S., L.R.C.P., WALKER, J. P., S., M.B., Ch.B. Oxon., WAYTE, J. W., M.R.C.S., L.R.C.P., Resident House Surgeons; RYAN, J. F., M.R.C.S., L.R.C.P., House Surgeon to Block 8; BIGGER, W. G., M.B., B.Ch. Cantab., RICHARDSON, A. H., M.B., B.C., Obstetric House Physicians; DICKSON, D. McM., M.R.C.S., L.R.C.P., Ophthalmic House Surgeon.

Salford Royal Hospital: GHOSH, J., F.R.C.S. Irel., D.P.H. Dub., L.M. Rotunda; HELM, W. A., M.B., Ch.B. Manch., Anæsthetists.

Certifying Surgeons under the Factory and Workshop Acts: HUTTON, T. O., M.B. Toronto (King's Lynn); MILLS, F. C., M.B., Ch.B. Edin. (Hipperholme); HALE, E. R. S., L.R.C.P. & S. Edin., L.R.F.P.S. (Ashford); DONALD, H. C., M.B., C.M. Glasg. (Paisley); CLEMENTS, M. A., M.B., B.Ch. N.U.I. (Tinahely).

Vacancies.

For further information refer to the advertisement columns.

Ayr County Hospital.—Res. H.S. £120.
Belfast District Asylum.—Two Asst. M.O.'s. £300.
Bermondsey Dispensary for Prevention of Consumption, 108, Grange-road, S.E.—Asst. M.O. £400.
Birmingham, Ministry of Pensions.—M.O. £700.
Birmingham, Queen's Hospital.—Two H.P.'s, H.S., and Cas. H.S. £90.
Bolingbroke Hospital, Wandsworth Common, S.W.—H.S. £150. Secretary. £300. Hon. Radiographer and Medical Electrician.
British Honduras.—Asst. M.O. $1900.
Cancer Hospital (Free), Fulham-road, S.W.—Surg. Reg. £100.
Cardiff, King Edward VII.'s Hospital.—H.S. £200.
Central London Ophthalmic Hospital, Judd-street, W.C.—Path. £75.
Chelmsford, Essex County Council.—Asst. County M.O.H. £600.
Chelsea Hospital for Women, Arthur-street, Chelsea, S.W.—Anæsth. £42.
City of London Hospital for Diseases of the Chest, Victoria Park, E. H.P. £100.
Cockermouth Board of Guardians.—M.O.'s. £80 and £50. M.O.H.'s. £70 and £450.
Colchester, Essex County Hospital.—H.P. and H.S. £200.
Croydon County Borough.—Res. M.O. for the Sanatorium, North Cheam, Surrey. £525.
Darlington County Borough.—Asst. M.O.H. and Asst. Sch. M.O. £450.
Dartford Urban District Council.—M.O.H. £700.
Dorchester, Dorset County Council.—Asst. County M.O. £400.
Dumfries, Crichton Royal.—Asst. P. £350.
Dumfries and Galloway Royal Infirmary.—Res. H.S. £150.
Durham County and Sunderland Eye Infirmary.—H.S. £450.
Durham County Council.—Dis. Tuberc. M.O. £600.
East London Hospital for Children and Dispensary for Women, Shadwell, E.—Pathol. and Reg. £200.
General Lying-in Hospital, York-road, Lambeth.—Res. M.O. £100.
Glasgow, Scottish Western Asylums' Research Institute.—Director. £600.

Gloucestershire Joint Committee for Tuberculosis.—Asst. Tuberc. M.O. £500.
Gloucestershire Royal Infirmary and Eye Institution.—Ophthal. S.
Halifax, Royal Infirmary.—H.S. £200.
Hampstead General and North-West London Hospital.—Cas. O. £150.
Huddersfield County Borough.—Female Asst. M.O.H. £400.
Kensington Royal Borough.—M.O.H. £800.
Leeds City Hospitals for Infectious Diseases, Seacroft.—Asst. M.O. £300.
Leeds Public Dispensary.—Res. M.O. £200.
Liverpool, Royal Southern Hospital.—Non-Res. Path. and Bact. £150.
London Lock Hospital, 283, Harrow-road, W.—Reg.
London Temperance Hospital, Hampstead-road, N.W.—Hon. Dent.S. Cas. O. £120.
Macclesfield, Cheshire County Asylum.—Asst. M.O. £300.
Maidstone, Kent County Ophthalmic Hospital.—Hon. Aural S.
Manchester, St. Mary's Hospitals for Women and Children.—H.S. £100.
Metropolitan Hospital, Kingsland-road, E.—H.P. and H.S. £100. Asst. H.P. and Asst. H.S.
Miller General Hospital for South-East London, Greenwich-road, S.E.—Sen. Res. M.O. £350.
National Temperance League's Science and Education Committee, Paternoster House, E.C.—Medical Secretary.
Newcastle-upon-Tyne, Hospital for Sick Children.—Junior Res. M.O. £200.
Nottingham General Hospital.—Cas. H.S. £150.
Oldham County Borough.—Asst. Tuberc. O. £300.
Oldham Royal Infirmary.—Third H.S. £200.
Reading, Royal Berkshire Hospital.—Senior Res. M.O. £350.
Rochester, St. Bartholomew's Hospital.—Res. H.S. £300.
Royal College of Physicians, Pall Mall, East.—Milroy Lecturer.
Royal Free Hospital, Gray's Inn-road, W.C.—First H.P., Second H.P., and Anæsth. £50.
Royal Waterloo Hospital for Children and Women, S.E.—Hon. Oph. S. Sen. and Jun. Res. M.O. £150 and £100 each.
St. Albans, Herts County Asylum, Hill End.—Second Asst. M.O. £400.
St. Helens County Borough.—Asst. M.O.H. £400.
St. Marylebone Infirmary.—Consulting Ophth. S. £100.
Salford Royal Hospital.—Cas. H.S. £150.
Singapore, Straits Settlements.—Med. Supt. Infectious Diseases Hospital. $7200 (£840).
Southport General Infirmary.—Sen. H.S. £250.
Southwark Union Infirmary, East Dulwich-grove, S.E.—Asst. M.O. £350.
Stafford, Staffordshire County Council.—Deputy County M.O.H. £700.
Stafford, Staffordshire Education Committee.—Asst. Sch. Med. Inspectors. £450.
Surrey, Virginia Water, Holloway Sanatorium (Hospital for the Insane).—Jun. Asst. M.O. £300.
Swansea County Borough.—Asst. M.O. £450.
University of London, South Kensington, S.W.—University Chair of Pathology. £800.
Ventnor, Isle of Wight, Royal National Hospital for Consumption and Diseases of the Chest.—Asst. Res. M.O. £200.
Victoria Hospital for Children, Tite-street, Chelsea, S.W.—Sen. Res. M.O. £250.
West-End Hospital for Nervous Diseases, 73, Welbeck-street, W.—H.P. £200. Hon. Clin. Assts. and P. to Out-patients.
West Ham Union Infirmary, Whipps Cross-road, Leytonstone, E.—Radiographer.
Whittingham, Preston, Lancs, County Asylum.—Asst. M.O. £300.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Ipswich, Steyning, Workington, and at Whithorn.

Births, Marriages, and Deaths.

BIRTHS.

CARDEW.—On Nov. 25th, Nora, wife of A. Barrett Cardew, M.C., F.R.C.S.E., Overbury, Charlton Kings, Cheltenham, of a daughter.

DAVIES.—On Nov. 22nd, at Charlemont, Oakcroft-road, Lewisham, to Violet (née Aked), the wife of Arthur Davies, M.D., M.R.C.P.—a son.

RICHARD.—On Nov. 26th, at Gibraltar, the wife of Major G. H. Richard, R.A.M.C., of a son.

WATT.—On Nov. 25th, at Littleworth, Egmont-road, Sutton, the wife of James Watt, M.D., Downs Sanatorium, of a daughter.

MARRIAGES.

HAINES—BURKE.—On Nov. 20th, at the Parish Church, Stratford-on-Avon, John Finch Haines, M.D., Dartmouth-park, N.W., to Alice Evelyn, eldest daughter of the late James Marlow Burke, Mem. Inst. C.E., and Mrs. Burke, of West End, Mallow, Co. Cork.

HAMILTON—LEWIS.—On Oct. 22nd, at the Catholic Church, Taganrog, South Russia, Captain Charles S. P. Hamilton, D.S.O., R.A.M.C., to Helen, only daughter of the late James Lewis and Mrs. Lewis, of Petrograd.

SCOTT—WEST.—On Nov. 26th, at Holy Trinity Church, Northwood, Middlesex, Captain Donald Charles Scott, R.A.M.C., to Marjorie Grace Holborn, second daughter of J. Walter West, R.W.S., and Mrs. West, of the Vane, Northwood.

WARE—LAMBERT.—On Nov. 19th, at the Church of St. Mary and St. Paul, Jersey, Major G. W. Ware, D.S.O., R.A.M.C., to Marie, only child of the late Monsieur Eloi Lambert, of Liége, Belgium.

DEATHS.

GRAY.—On Nov. 23rd, at Auckland-hill, West Northwood, S.E., William Harrington Gray, Captain, R.A.M.C., aged 43 years.

HORSFORD.—On Nov. 25th, at Studleigh House, Manor-road, Twickenham, Joseph Alphonsus Horsford, M.R.C.S., L.R.C.P.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

SYNTHETIC DRUGS.

Abstract of First Cantor Lecture, delivered at the Royal Society of Arts

By Professor J. T. HEWITT, F.R.S.

THE number of synthetic drugs introduced in recent years is remarkable, as was plainly evidenced in the opening lecture delivered upon the subject at the Royal Society of Arts on Dec. 1st by Professor J. T. Hewitt. In attempting to give an adequate account of synthetic drugs in a course of three lectures the lecturer said that it would none the less be necessary to set limits regarding the matters considered. The term, synthetic drug, he went on to say, implied that a substance is artificially produced, and that it finds a use in medicine, so that numerous fairly simple compounds could be logically included. Common usage, however, has restricted the term to more or less complex carbon compounds, which are prepared either by truly synthetic methods (e.g., veronal) or by modifying the structure of naturally occurring compounds by oxidation, reduction, acetylation, alkylation, and so forth. Accepting this generally implied meaning, there should be included on the one hand simply constituted compounds like chloroform and ethyl chloride, and on the other complicated compounds such as di-acetyl-morphine. The method of preparation of the simpler compounds was well known.

Their Classification on Therapeutic or Chemical Basis.

The subject may be classified either on the lines of systematic organic chemistry approaching the members of one class of compounds at a time, or the various substances can be arranged according to the effect produced by their employment, considering disinfectants in one group, hypnotics in another; this is the course which has been most generally followed. In adopting a classification based on chemical considerations, the survey of the subject is rendered more systematic, and that plan the lecturer, who is a chemist, followed. Dismissing the fact that small amounts of the paraffins and olefines themselves (the aliphatic hydrocarbons) have no very pronounced action on the organisms, it was pointed out that their halogen derivatives have in many cases well-marked anæsthetic properties. Ethyl chloride, methylene chloride, chloroform, carbon tetrachloride, ethyl chloride ethylene di-chloride, di-chloro-ethylene, were referred to as examples. The bromine and iodine derivatives were next alluded to as bromoform, ethyl bromide, and iodoform. Next were considered the halogen derivatives of the higher alcohols, as, for example, isopral (trichloro-iso-propyl alcohol) used as an hypnotic and chloretone (tri-chloro-butyl alcohol) which, besides possessing hypnotic properties, acts also as a local anæsthetic, analgesic, and antiseptic. Then there were brometone with hypnotic and analgesic properties and employed in sea-sickness, and tertiary amyl alcohol (amylene hydrate), a hypnotic intermediate in its action between chloral hydrate and paraldehyde.

Aldehydes and Ketones.

Coming to the aldehydes, it was pointed out that these were formed by the oxidation of primary alcohols, the two simplest finding extensive application in medicine. Formaldehyde and its polymer, paraformaldehyde, were mentioned and their method of preparation. The consideration of the formation of these compounds by synthetic methods led to an account of hexamethylene tetramine (formamine, hexamine, aminoform, urotropin, cystamin, formin, metramin, urisol, uritone, vesalvine, xametrin). Its synthesis was described in detail and a list of salts and addition products arising therefrom given. The lecturer proceeded next to the ketone derivatives, which include the sulphonals, the starting-point of which is acetone. Following this synthesis come trional and tetronal, all sulphonated derivatives. The fatty acid series next claimed the lecturer's attention, who said that while the acids themselves could be neglected, the formates were obtained synthetically from carbon monoxide and acetic acid, and the conversion of these acids into other substances was of interest. There were, for instance, the halogen derivatives of valeric acid (bromural and iodinal), used respectively in bromine and iodine administration as halogen carriers to the organism in the place of ordinary bromides and iodides, spoken well of in nervous troubles. Following these were neuronal, sabromin, and saiodin. Details were given as to the elaboration of these products, starting with the glyceride of oil of hemp-seed (erucic acid) as a basis. The products were described as halogenated behenic acids.

Cyclic Derivatives of Carbamide (Urea).

Veronal was then taken as typical of the cyclic derivatives of carbamide (cyclic ureides). The parent substance, barbituric acid or malonyl urea, was originally obtained from products of the action of nitric acid on uric acid. Examples were given illustrating the extensive research which led to the output of a series of hypnotics useful under the guidance of the physician, but dangerous, as events have proved, when left to be freely purchased by the public. The inclusion of this class of chemical products in the Poisons Act precludes their open sale, and has reduced fatalities from poisoning in this direction. The lecture concluded with an account of the derivatives of cyclic alcohols, of which borneol, menthol, and santalol are representatives in medical use. The methods by which these higher cyclic alcohols are converted into salts (esters) were described, an interesting series being the santalyl group. The structure of the synthetics was illustrated by constitutional formulæ.

THE ROBIN SOCIETY.

THE Robin Society is unsectarian, and has for its double object the provision of free meals, particularly at Christmastide, and a holiday in the summer for the poorest children in the metropolis. We learn from the thirty-eighth annual report (1918–19) that 6500 children were entertained during the winter, and 250 sent for a week at the seaside during the summer. In addition to financial support, the society asks for clothing (old or new), boots in particular, and games. The official address is 421, New Cross-road, London, S.E., and the Bankers are London County Westminster and Parr's Bank Ltd., Deptford Branch.

FAILURE TO PROVIDE SPECTACLES TREATED AS PARENTAL NEGLECT.

AN unusual case was recently heard by the Bootle bench of magistrates, when the father of a school girl, aged 9 years, was summoned under the Children Act, 1908, on the ground that he "did wilfully neglect her in such a manner as to cause unnecessary suffering and injury to health." It was stated by an inspector of the N.S.P.C.C., who prosecuted, that the school doctor had certified the necessity of spectacles. Defendant had been written to, called upon by the inspector, and urged in every way to provide the glasses, but had refused to do so. Dr. R. E. Harcourt said that he had examined the child in the school clinic, and found her so short-sighted as only to be able to read three lines on the 6-metre chart. Neglect to provide glasses had undoubtedly caused the girl unnecessary suffering. She would not be able to see the blackboard without straining her eyes, and in trying to do so might suffer from headache and pain in her eyes. The defendant contended that if he had the girl in court he could prove that her eyes were as good as his own. He was convicted and fined 40s., plus the costs of the society and the cost of the summons.

This appears to be the first conviction for failing to provide spectacles, a fact the more remarkable as in London, at all events, parents frequently refuse to carry out the instructions of the school doctor in this respect without external pressure. During the last year three women inspectors of the N.S.P.C.C. have been constantly engaged in seeing that London school children actually get the treatment prescribed for them. 159 cases of defective sight were reported to them up to the time of issue of the society's last annual report. It speaks well for the persuasive powers of these inspectors that no appeal to the court has been necessary in these cases. Evidently the great majority of parents, when warned, make proper provision.

AN HISTORIC CASE OF INSTRUMENTS.

THE case of surgical instruments, which belonged to Dr. David Livingstone and was brought with his body from Central Africa to the east coast by his faithful natives in 1873–4, will be exhibited at the Museum of the Royal College of Surgeons of England during December and January. The case is of mahogany with brass fittings, and contains amputating knives, saws, bone-forceps, scalpels, lancet, artery-forceps, aneurysm-needle, tourniquet, bullet-forceps, various trephining instruments, trocar and cannula, dental key, silver catheters, &c. A few instruments are missing.

The authenticity of this relic of the great missionary-explorer is attested by a manuscript, of which the following is a copy:—

"Case of surgical instruments, the property of the late David Livingstone, the African explorer, and presented to me by Dr. Oswald Livingstone, the traveller's only surviving son. This case was bought in 1865 by Dr. Livingstone of Messrs. Hilliard of Glasgow, who made and fitted it to his order. It was used by him in his travels in Africa, and was sent back along with his other property from that country in 1874, when the doctor's remains were brought to England. I hereby certify to the correctness of the above statement and the card attached was my father's visiting card. (Signed) W. OSWALD LIVINGSTONE, M.B., C.M.

W. M. Dunlop, Oct. 15th, 1885."

The case has been acquired from Dr. Dunlop, a former fellow-student of the explorer's son in Glasgow, by Dr. Claude Chidell, and will ultimately be presented to the London Missionary Society, which originally sent Livingstone to Africa. Dr. W. Oswald Livingstone went to Africa to inquire about his father's body, and on his return was given a medical appointment in Trinidad by Lord Granville. He returned to England in bad health, and settling at St. Albans died there in 1889.

THE CONQUEST OF THE ATLANTIC BY AIR.

EXTRAORDINARY care has to be devoted to every detail in the equipment of aeroplanes and airships for such undertakings as Transatlantic flight. Messrs. Burroughs and Wellcome are therefore justified in calling gratified attention to the fact that every aeroplane, seaplane, and airship which has crossed, or attempted to cross, the Atlantic was equipped with "Tabloid" First-aid.

A FIFTEENTH-CENTURY PRESCRIPTION.

To the Editor of THE LANCET.

SIR,—Dr. Cholmeley is so good an authority upon medical history that it seems almost an impertinence to criticise anything he says. Yet I would venture to refer him to the Sydenham Society's Lexicon, where he will find that "Manus Christi" was a name formerly given to lozenges made of sugar and rose-water.—I am, Sir, yours faithfully,

S. D. CLIPPINGDALE.

Holland Park-avenue, W., Nov. 29th, 1919.

PROFITEERING AND MEDICAL FEES.

To the Editor of THE LANCET.

SIR,—In reference to your note this week under Medicine and the Law, and with this title, I would remark that, when doctors by reason of their profession become necessary witnesses in legal proceedings, they naturally desire some remuneration for time lost. It is open to them to decline to treat a patient who they think may after recovery subpœna them as witnesses. If he is not an insured person on their list they cannot be compelled to attend him. This, however, involves hardship to the patient, who is then left to seek aid at a hospital, to be followed perhaps by medical evidence from the same source. There again hardship and difficulty arise. The hospital is a charitable institution at which those who can obtain admission are medically treated without charge. It is not maintained with the object of providing witnesses in claims for compensation for injuries, and the plaintiff in a humble station may find it far from easy to secure from a hospital the witness whom his case requires. Unfortunately, although the situation involves hardship for the medical man and for persons in a humble position justly entitled to damages for injury, it is difficult to suggest a remedy.—I am, Sir, yours faithfully,

Nov. 29th, 1919. MEDICO-LEGAL.

AN EXTRA SUGAR RATION FOR ONE-YEAR-OLDS.

AN Order has been issued by the Ministry of Health providing for an extra sugar ration of four ounces per week to certain infants attending welfare centres. Artificially fed babies between the ages of 6 and 18 months are eligible for the ration on certificate from the medical officer or superintendent of the centre. The extra sugar is to be sold to the mother at the ordinary price and under various safeguards against abuse, as the amount available for distribution is limited. It might have been helpful to the officers of welfare centres if the conditions for which the extra ration is recommended had been indicated.

The extra allowance is probably intended as a cold season ration, when the heat of the body requires to be specially maintained, and a plentiful supply of food of the "fuel" order is indicated. It must be remembered that sugar efficiently replaces fats, of which certain are still rare—e.g., butter-fat and animal fats generally containing accessory food factors. The increased ration is probably based to some extent on these facts.

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